THE OIL WEEKLY

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PUBLISHED BY
THE GULF PUBLISHING COMPANY
HOUSTON, TEXAS

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Staff correspondents at all important points.

Member Audit Bureau of Circulation
Member Associated Business Papers, Inc.

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NEW YORK.....250 Park Ave.
PITTSBURGH....Standard Life Bldg.
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SPECIALIZED OIL JOURNALS

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The Oil Man's Calendar

AUG. 10-15	Michigan Oil & Gas Exposition, Mt. Pleasant.
SEPT. 6-10	American Chemical Society, Rochester, New York.
15-17	National Petroleum Association, Hotel Traymore, Atlantic City.
16-19	Pacific Oil Show & Black Gold Festival, Taft, California.
SEPT. 27 OCT. 1	American Gas Association, Cleveland, Ohio.
OCT. 11-15	National Safety Congress & Exposition, Kansas City, Missouri.
11-16	Oil-World Exposition, Houston, Texas.
13-14	Indiana Independent Petroleum Association, Indianapolis, Ind.
14-16	American Association of Petroleum Geologists, Mid-Year Meeting Pittsburgh, Pennsylvania.
14-16	Independent Petroleum Association of America, Houston, Texas.
18-22	American Welding Society, Atlantic City, New Jersey.
21-22	Michigan Petroleum Association, Traverse City, Michigan.
29-30	Mid-Continent Oil and Gas Association, Texas Division, Dallas, Texas.
NOV. 8-12	American Petroleum Institute, (Annual), Chicago, Illinois.
1938 MAR. 16-18	Annual Meeting, American Association of Petroleum Geologists, Roosevelt Hotel, New Orleans, La.

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Published every Monday. Single Copies 15 cents (Special Issues 50c). Subscription price: domestic and foreign, $2.00 a year; 2 years $3.00. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879. Subscription restricted to those engaged in the producing and pipe line branches of the oil industry or the manufacturing and distribution of oil field supplies. Advertising rates on application.

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WHAT IS A GEOPHYSICAL SUCCESS?

Finding oil and gas accumulations is not the only measure of geophysical success. The function of geophysical exploration is to prevent drilling in the wrong places, as well as to direct drilling in the right ones. To be truly successful, a geophysical method must be able to define accurately not only simple structures, but the most difficult ones as well, and to perform reliably under the most adverse conditions. Measured in these terms

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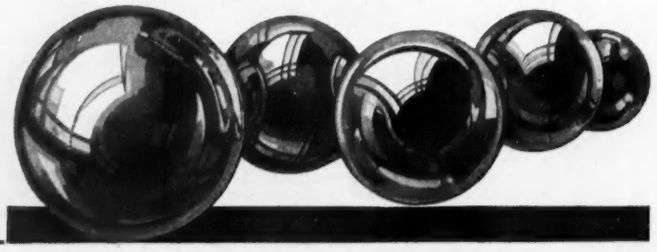

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LOOKING AHEAD

WITH THE EDITOR

Crankshaft Care Important Engine Maintenance . . .
Automatic Control of Feed and Weight . . .
Conclusions from Sucker Rod Failure Analysis . . .

THE backbone of every internal combustion engine is the crankshaft, which probably is given less maintenance thought than any other part of the machine. The first requisition in crankshaft care is to procure proper alignment and then to have the correct bearing clearance. In our next equipment care series article, a quick and easily interpreted test for misalignment and bearing clearance will be presented, along with other important data. Among the latter will be suggestions for improving the visibility of oil flow through sight feeds, a means of closely checking the quality of engine oil, a method for lubricating engines when starting up, and a way to exclude carbon from bearing-oil apertures.

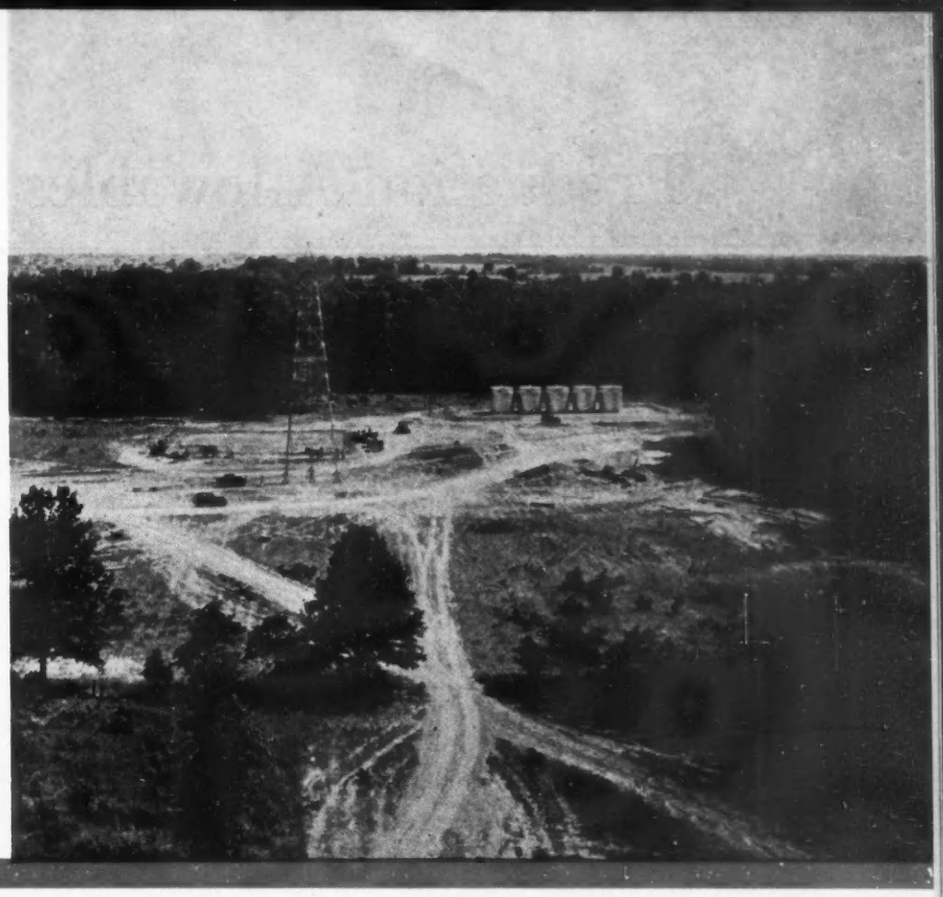
ONE of the first installations of an automatic-feed and weight-control instrument for rotary drilling rigs has been made in the Hastings, Texas, field, and is to be the subject of an interesting article. The control is an independent unit, that either feeds or retrieves the drill pipe at any desired speed. The speed can be varied from a few inches to 120 feet per hour.

SEVERAL important conclusions have been obtained from a thorough study of pumping down-time in the Oklahoma City field. Most important probably is that the amount of shut down has not been excessive, and that therefore the industry is able to economically pump 6500-foot wells. Moreover, the study has aided in lessening the amount of down-time in existence earlier, by pointing out where the most common sources of trouble have been. If you want to improve your pumping operations you may find the answer in this article.

THIS WEEK

» THE QUESTION TODAY in which everyone is interested is, what of Illinois? After many lean years the state has returned to prominence in the oil industry. The past year saw an exceptional active leasing play in the basin district, with major concerns taking the lead. So far during 1937, three new fields have been discovered, and among the completions have been some of the largest wells drilled in the state. Shown here is Pure Oil Company's Travis 1, which initialed 3000 barrels at 2950 feet from the McClosky sand. It is in the new Clay City field in Clay County.

—Photo courtesy Charles Ward, Editor, Pure Oil News.



THERE was further evidence last week that crude production in August will materially exceed demand, although the latter will be at an all-time peak. As additional states fixed their allowables, it was indicated that from 2,500,000 to 3,000,000 barrels might be added to storage. Louisiana fixed its allowable 10,650 barrels over the Bureau of Mines quota, while New Mexico exceeded it by 13,000 barrels. Meanwhile, Texas readjusted its previously issued August order upward, and now is 105,117 barrels in excess of the bureau recommendation. Oklahoma and California adhered to the bureau's forecast of demand from their area. Kansas postponed action, but was expected to follow the suggested output of the bureau. **Page 10.**

EXTENSION of the Interstate Oil Compact for two more years appeared assured last week, as both the Senate and House voted approval. President Roosevelt is expected to sign the measure immediately, he having urged its adoption in a recent messages to Congress. **Page 11.**

AN attempt was made last week to arouse interest in the House of Representatives in a bill that would divorce other branches of the petroleum industry from marketing. Concerns producing, transporting or refining oil would not be permitted to engage in selling it, under stipulations contained in the measure. However, it was considered to have little likelihood of passing, particularly in view of the desire of Congress to adjourn at an early date. **Page 12.**

A DEMAND for more anti-trust suits, similar to the Madison, Wisconsin, one, was made in Congress last week. It was charged that there was a need for more grand jury investigations of the oil industry. **Page 12.**

CURRENT SITUATION

(Latest Available Weekly Data)

Outlook.—Dimmed by prospect of higher production.

Crude Market.—Michigan prices lower.

Refined Oil Markets. — Gasoline prices unchanged.

Crude Production.—Down 17,090 barrels to 3,569,685.

Crude Runs to Stills.—Down 35,000 barrels to 3,380,000 daily.

Crude Stocks. — Down 118,000 barrels week ending July 17.

Gasoline Stocks.—Down 524,000 barrels to 72,020,000.

Gas and Fuel Oil Stocks. — Up 1,175,000 to 106,260,000 bbls.

Drilling.—Completions last week 592, down 54.

See* MARKET SECTION *for Details

OPERATING problems new to the state of West Virginia have been created by development of gas fields producing from the Oriskany sands. The productive formation is deeper than previous ones, but aside from the difficulty of penetrating a cavey formation and the necessity of controlling higher pressures, this phase has not been a major problem. The foremost trouble has been encountered in fighting an acute freezing condition. With the wells pinched to a small output and the high pressures, there has been a continuous struggle against this action, and some interesting developments have taken place. **Page 36.**

THE care of Diesel engines is an important operation in pipe line stations using this type of prime mover. While schedules vary, and sometimes the procedure, it has been proved that the more frequent the overhaul, the less likely is a service breakdown, and the longer the ultimate life of the engine. Time spent in intelligent care of these units will also add profit to pipe operation, and minimize the possibility of injury through engine wreckage. **Page 14.**

IMPROVED production methods have made the Austin chalk an important factor in South Texas reserves. The horizon, which has been practically dormant for several years, is now an active one. There is no single change in methods of operation that accounts for the increased recovery from the formation, but apparently it is due to improvement in drilling and completing. **Page 24.**

Production Allowables

Texas, New Mexico and Louisiana August allowables exceed Bureau's recommendations by 128,967 barrels daily, indicating much oil will go into storage.

As the leading producing states last week fixed their proration schedules for August, it became apparent that the favorable statistical position the industry has occupied the past two months would be missing this month. Crude output during the month may be expected to materially exceed demand, to the extent that from 2,250,000 to 3,000,000 barrels may be added to storage.

Prior to June, the officials of the leading producing states failed to adhere closely to the Bureau of Mines forecasts of demand. The result was the running of much crude to storage, which caused considerable market anxiety. The return of the states to this policy is expected to have the same reaction now as then. In fact, there is talk of the industry having lost a crude price raise and now being confronted with a possible cut.

Balance in June and July

During June and July, the states cooperated in keeping their allowable close to the Bureau of Mines, and there was an effective balancing of supply and demand. During June crude stocks increased but 1,234,000 barrels, which at the time was the smallest monthly addition to storage since January, when withdrawals occurred. While final crude stock figures for July are not yet available, it appears that there was an even more close balance between production and consumption. For the week ending July 17, the Bureau of Mines estimated stocks were 540,000 barrels less than at the first of the month.

The big increase in allowables for August is due primarily to the interpretation placed upon the Bureau of Mines survey of the physical condition of oil in storage by the Texas Railroad Commission. Most oil men fail to agree with the Texas commissioners' interpretation of the survey, which was presented to the Interstate Oil Compact Commission recently (The Oil Weekly, July 19). The Texas commission members, and particularly Colonel E. O. Thompson, are of the opinion the survey showed crude stocks were too low, and especially that Texas did not have its just share of the amount in storage. Consequently, the Texas allowable has been increased with the expressed purpose of increasing storage in the state.

Last week there were three actions that indicated the output of crude in August would exceed demand by a wider margin than anticipated a week earlier, although consumption will be at an all-time peak. In Texas, the allowable established more than a week ago was readjusted upward, although it already was far in excess of the Bureau of Mines recommendation. Louisiana and New Mexico, as have been their policy, fixed their allocations ahead of the Bureau of Mines.

The combined allowable of these three states was 128,967 barrels daily in excess of the Bureau of Mines figure, or 4 percent greater. Texas was the chief offender in actual barrels, being 105,117 barrels over the bureau quota, and this will be increased with each new well completed. Louisiana was 10,650 barrels, and New Mexico 13,200 barrels, ahead of the recommendation of the Bureau of Mines. From a percentage standpoint, New Mexico's allowable was 13.1 percent, Texas' was 7.5 percent, and Louisiana's was 4.2 percent over the Bureau of Mines forecast.

Three of the six leading producing states followed the Bureau of Mines recommendation. These were California, Oklahoma, and Kansas, which set their daily allowable at 612,800, 633,400, and 200,500 barrels per day respectively.

TABLE 2

State Allowables vs. Bureau of Mines Forecast of Demand in July and August

(Barrels Daily)

Month and State	Bureau of Mines Recommendation	State Allowable Beginning of Month	Excess of State Allowable	Percent Excess
July, 1937:				
California	605,500	605,500	.....	...
Kansas	195,600	195,600	.....	...
Louisiana	253,000	263,850	10,850	4.3
New Mexico	100,800	114,500	13,700	13.7
Oklahoma	629,700	629,700	.....	...
Texas	1,375,100	1,355,476	10,376	0.8
Total Six States	3,159,700	3,194,626	34,926	1.1
Total Nation	3,423,800	.....	.....	...
August, 1937:				
California	612,800	612,800	.....	...
Kansas	200,500	200,500	.....	...
Louisiana	253,900	264,550	10,650	4.2
New Mexico	100,800	114,000	13,200	13.1
Oklahoma	633,400	633,400	.....	...
Texas	1,395,200	1,500,317	105,117	7.5
Total Six States	3,196,600	3,325,567	128,967	4.0
Total Nation	3,462,900	.....	.....	...

TABLE 1

Combined Allowables of 6 Leading States vs. Bureau of Mines Recommendations and Their Effect on Crude Stocks.

(The 6 states include: California, Kansas, Louisiana, New Mexico, Oklahoma and Texas)

MONTH	Bureau Forecast of Demand	Six State's Daily Allowable	Excess of State Allowables		Stocks at End of Month	Stock Change in Month
			Barrels	Percent		
1937						
January	2,770,700	2,882,181	111,481	4.0	285,384,000	— 2,275,000
February	2,835,300	2,983,596	148,296	5.2	288,121,000	+ 2,737,000
March	2,924,400	3,096,142	171,742	5.8	297,374,000	+ 9,253,000
April	3,006,600	3,081,699	75,099	2.5	303,249,000	+ 5,875,000
May	3,083,100	3,179,836	96,736	3.1	306,445,000	+ 3,196,000
June	3,109,900	3,139,312	29,412	0.9	307,679,000	+ 1,234,000
July	3,159,700	3,194,628	34,926	1.1	*307,139,000	— 540,000
August	3,196,600	3,325,567	128,967	4.0	.....	.....

* Latest available figures are for week ending July 17.

Louisiana Hikes Allowable

The August allowable for Louisiana was fixed at 264,550 barrels daily in an order last week. This is an increase of 700 barrels over the July allowable, and 10,650 barrels ahead of the Bureau of Mines recommendation for the state. This is slightly less than 10,800 barrels it exceeded the Bureau of Mines in July.

Southern Louisiana was given a quota of 180,050 barrels daily, and Northern Louisiana received an allowable of 84,500 barrels per day.

An increase was allowed the Rodessa field, the largest single pool in the state. It will be permitted to pro-

duce 50,000 barrels per day during August.

The largest single increase went to the Evangeline field, which was increased 2250 barrels to 10,000 barrels daily.

There were minor increases and some losses allocated to the other fields in the state.

Oklahoma Follows Bureau

Increases for fields of Class D and in the unprorated areas were granted by the Oklahoma Corporation Commission in fixing an allowable of 633,400 barrels daily for August. The total is identical with the estimate of the United States Bureau of Mines. Class D fields are those of recent wildcat status, where additional wells are adding to potentials. Revival of drilling and reworking of wells in the settled fields made it necessary to give an increase to these.

The largest reduction was for the Greater Seminole area, Class B, where the August figure was set at 137,100 barrels daily, while the figure for July was 139,700. Most of these fields are still under proration orders but are allowed full capacity output. In June these fields produced only 128,706 barrels daily.

The Wilcox zone at Oklahoma City, the only class A field in the state, drew an allowable of 128,000 barrels, the same as in July, although June production was only 120,382 barrels daily.

Class C fields were granted 144,000 barrels, against a July figure of 143,600 barrels. The increase for Class D was from 12,900 barrels to 15,800 barrels. The unprorated areas were raised from 160,000 barrels to 163,000. These fields had daily output of 164,044 barrels daily in June. Output of the several fields, which are under proration by agreement between producers but not under commission regulations, was left at 45,500 barrels.

The August proration for the Moore pool, Cleveland County, Oklahoma, will have a clause fixing a minimum allowable of 200 barrels daily. So far the field has not needed a minimum figure, since its producers have been in the gusher classification. Recently a few completions have indicated that this condition will not endure.

Percentage flow for the field will not be determined for August until bottom-hole pressure is determined after August 1. Moore is the only Oklahoma field, where bottom-hole pressure is a factor in determining allowables. The allocation for August, however, will remain at 13,000 barrels daily.

Texas Allowable Hiked More

Two major adjustments were made by the commission last week.

The first was for Mirando crude fields of South Texas, which had been given an allowable of 24 barrels per well effective August 1. At midweek the commission decided that 24 barrels was too low and raised each well 6 barrels. Six multiplied by 2471 wells meant an overall daily increase of 14,826 barrels, and brought the Texas estimated allowable to 1,500,317 barrels as of August 1. This is an estimated figure, since many wells were completed between July 21, when the state-

[*See Allowables, Page 44*]

Legislative Action

Congress passes compact extension . . . Marketing divorce and more trust suits urged . . . Pennsylvania investigators told regulation needed.

ANTICIPATING early adjournment of Congress, supporters of oil legislation at Washington last week moved for early consideration of their measures, and were successful in getting approval for the extension of the Interstate Compact Act. While representatives at Washington were being urged to require divorcement of the marketing business from other branches of the industry so that "independent marketers would not be jeopardized," a legislative investigating committee in Pennsylvania was being told that there was need for state regulation of the industry if the "poor" independent producer was to be able to stay in business against major competition. Following along these lines of thought was a demand made in the national house that there be more grand jury investigation of alleged violations by major concerns of the anti-trust laws.

Compact Extension Approved

Both houses of Congress last week passed the Thomas resolution confirming extension of the interstate oil compact and sent the measure to President Roosevelt for approval.

The Senate passed the measure on July 27 without debate, the House gave its approval on July 29 without opposition, although Representative Biermann of Iowa called attention to his bill diverting marketing from production and refining operations and charging that the Connally Contraband Oil Act and the compact are working to give the integrated companies complete control of the industry.

Biermann's charges were answered by Representative R. P. Hill of Oklahoma, who pointed out that almost without exception the independent dealers in his state are for the compact.

"I do not believe the compact will have one thing in the world to do with the situation about which the gentleman is concerned," he said. "I may say that I have had statements in line with my position from men who are in the position to which the gentleman has referred. However, as I view this bill, it is not going to interfere with what the gentleman is trying to do, and I agree with him on that proposition. I think that after the passage of this bill we shall be in better position because we shall have the full strength of the independent dealers as well as others in working to correct the situation."

The passage of the resolution through the house was secured by Representative Lyle H. Boren of Oklahoma, who had introduced a similar measure, who declared the legislation to be "of great national importance in that its adoption means the conservation of a great national resource."

In a report from the committee on Interstate and Foreign Commerce, Representative Cole of Maryland, who headed the committee which investigated the oil industry in 1934, declared that "I am frank to say with the efficiency of the Bureau of Mines and the Petroleum Administrative Board, both under the Department of the Interior, dealing primarily for the past two years with shipments of oil in interstate commerce in violation of state law, there is not the same need for a separate agency as I advocated in the past.

"Nothing we can think of is more important at the present time than the conservation of our oil resources. All states possessing these great resources should be and, I believe, are anxious to do so and the great consuming portion of the country is equally concerned.

"A single state, however, is not willing to impose upon its people legal restrictions in the recovery of this resource from their land—which recovery can be restricted, as the courts have well defined, provided such statutes are for the purpose of preventing waste thereof—unless neighboring and other oil producing states are willing to do likewise.

"It should be said that all that is capable of being accomplished under the compact of 1935, which we now recommend be extended, has not been accomplished, in fact not so much as we had hoped for, but the interstate commission provided for therein does supply the means for frequent contact on this all-important subject between the states most concerned therewith."

The report to the Senate from the mines committee pointed to the benefits which have accrued from the interstate compact, and recommended that its continuance be ratified as an aid to conservation of oil and stabilization of the industry.

That the compact has had these effects has been demonstrated during the two years it has been in force, the committee said, and the desire for continuance is unanimous among the signatory states, all of those which originally signed the compact having joined in its renewal.

"Interstate compacts such as this one are in complete harmony with the spirit of our American form of government," the report declared. "They preserve the rights of each separate state at the same time that they enable each of these states to work together on a sound program which all of them accept. They involve no use of force. They impose no prohibitions beyond those which are imposed by the states themselves. They enable the various

states, signatory to such compacts, to do those things which are necessary but which might not be done by any of them separately or by any group of them without this consent of Congress.

"This compact," it was pointed out, "definitely states that nothing in it would authorize the states to limit the production of oil or gas for the purpose of stabilizing or fixing the price thereof, to create a monopoly, or to promote regimentation."

Marketing Divorce Bill

In the House, also, Representative Fred Biermann of Iowa sought to arouse interest in a drive for enactment of his bill divorcing marketing from other branches of the petroleum industry, but with little likelihood of success.

Biermann compared his bill to the Connally contraband oil act which, he said in a speech on the floor on July 26, "had for one of its principal purposes the stopping of cutthroat competition among the producers of petroleum products.

"My bill," he declared, "has for its purpose the stopping of subsidized competition in the marketing field.

"The big major oil companies have been using their marketing properties as dumping grounds for their production and refinery departments. They appear to be content to take heavy losses in marketing in order to be assured of an outlet. This practice of theirs jeopardizes the very existence of thousands upon thousands of independent oil marketers, whose business must stand upon its own feet.

"If my bill becomes law, and I believe either it or some similar measure soon will become law, the business of marketing oil will stand on its own economic base and all who engage in it will be on a plane of equality."

The Iowa congressman again quoted from the February 5 prospectus of The Texas Corporation—rapidly becoming famous—to support his contention that the integrated companies consider their marketing organizations primarily from the point of view of assuring an outlet.

"Obviously," he explained to the House, "no independent marketer can compete with a big company which can absorb marketing losses from other departments of its business.

"The independent oil marketer buys his supply in a controlled market under the terms of the Connally Act. When he comes to sell his goods he meets the competition of those who are fortified by profits from production, refining and transportation. This subsidized major oil competition has fixed the margin of profit so low that the independent oil marketer cannot continue long to exist under present conditions. My bill proposes to make oil marketing stand alone. It will not subsidize anyone nor will it permit anyone to be subsidized."

More Trust Suits Wanted

Demand for more suits such as those pending at Madison, Wis., was voiced in the House July 28 by Representative John M. Coffee of Washington.

Outlining the two suits which have been brought against the oil industry by the government, Congressman Coffee declared there is need for more

[*See Legislation, Page 54*]

Labor Situation

Magnolia joining CIO . . . South Penn workers form own union . . . Pennsylvania pumpers exempt from new weekly hour law . . . Refinery men well paid.

LAST week, as employes of one oil concern were making plans to affiliate with the CIO, workers in another firm were progressing in setting up their own union organization.

Renewed membership drive in the East Texas field was launched early last week by organizers of CIO. Union leaders canvassed the East Texas field and conducted a series of labor rallies during the spring months, but failed to gain sufficient strength in any single company to press demands for a labor contract. Surplus labor in the East Texas field has been materially reduced in recent months because of a revival of drilling operations. About 100 rotary rigs are now in service in the field proper.

Employes of Magnolia Petroleum Company in Oklahoma formed a council to arrange for affiliation with the CIO.

Representatives of the 2200 employes of South Penn Oil Company completed preliminary plans for the organization of an employes federation of the company and its subsidiaries, which will replace the 20-year-old co-operative plan instituted by the company but outlawed by the national labor relations (Wagner) act. Eighty-four percent of the West Virginia employes, and 70 percent of the Pennsylvania employes, are said to favor the new organization, which is intended to protect workers against outside influences and to represent them in negotiations with the company.

The new South Penn organization will follow the outline of the old co-operative plan closely, with representatives of the 16 districts replacing the former delegates. Pennsylvania and West Virginia representatives will constitute councils, with the president and vice president of each state council comprising the central council which will confer with company officials on matters affecting employes. New representatives are to be elected August 17, and council officers will be elected by the two state groups on September 14.

Oil Workers Exempt

One of the most serious threats to Pennsylvania's oil industry growing out of the recent legislature was dispelled last week when Ralph M. Bashore, secretary of labor and industry, announced that virtually every employed person in the state receiving $25 a week or more will be exempt from the new 44-hour week law for men which becomes effective December 1.

The law was fought by operators, as it would have made impossible continued pumping of a large number of the stripper wells now producing fractions of a barrel daily and would have forced the closing of many leases. Workers handling pumping wells on Pennsylvania leases, while working a comparatively few hours a week, are on duty more than 44 hours a week, for the most part living right on the lease.

Specific exceptions provided in the law exempt persons of 21 or more earning at least $25 weekly in "bona fide executive positions or learned professions." Definition of the labor and industry department on this clause of the bill "will be broad enough to cover practically every case in which a person is earning more than $25 a week," Bashore said.

The legislature, when passing the law, made no definition of what constituted an executive position, nor did it define "bona fide." Bashore also indicated that the definition of "emergency," during which operation of the act can be suspended, also would be drafted in liberal terms. "The regulation," he said, "will be drawn so that where during the continuance of an emergency the strict application of the schedule would work a hardship, a variation may be granted under this regulation."

Regulations for enforcement of the act and to permit variations from the 44-hour schedule will be of general application to the particular industry involved. It is probable that the producing division of the oil industry will seek regulations that will cover operating problems peculiar to it.

Refinery Wages Are High

Average hourly earnings in the petroleum industry, traditionally high, now are the highest prevailing in any manufacturing industry, according to data of the United States Bureau of Labor Statistics. At 95.1 cents, the average hourly rate paid the refinery worker exceeds by nearly 50 percent the average paid to employes in 91 other industries covered by the bureau's survey.

Increases granted during the last year have added nearly one-fifth to average hourly wages of refinery workers and have brought hourly rates approximately to 50 percent above the boom year of 1929, when the average rate was 64 cents. At the same time the work-week has been shortened. According to the bureau's figures, the average refinery worker in 1929 put in 49 hours a week. Currently he is working only 35.6 hours, a decrease of 27 percent, and nearly 5 hours less than the average week of 40.4 hours now

[*See Labor, Page 55*]

Proration Matters

New Kansas potential plan . . . Order malodorant in all Texas gas . . . To determine Michigan gas open flow . . . Eighty-acre Cotton Valley spacing.

A NEW potential plan for Kansas, issue of an order requiring injection of a malodorant in all gas sold in Texas, decision to determine the open flow gas capacity of Michigan wells, and the writing of an order governing development in the new deep horizon at Cotton Valley, Louisiana, were actions of importance taken by various state conservation agencies the past week.

New Kansas Potential Plan

The new potential plan adopted July 30 by the Kansas Corporation Commission provides for 8-hour producing tests, which are to be divided into two consecutive 4-hour periods. The lowest of the 4-hour periods multiplied by 6 will give the potential of the well.

The plan also provides that potential periods shall be 9 months apart, instead of 4 months as in the past. In connection with this move, a composite withdrawal decline curve was adopted as the governing factor in the intervening months. Under this plan potentials on 40-acre spacing will decline one-fourth as much as on 10-acre spacing.

Producers will be required to file monthly production reports.

Adoption of the decline curve to determine potentials followed a hearing July 1, when one set of producers proposed the method while another group held out for physical tests. The method adopted, however, varies from the one proposed, in that wells on 20-acre spacing will be declined but half as fast as wells on 10-acre spacing, etc.

The commission provided authority for the director of conservation to shut in wells which produce in excess of allowables. Previously a hearing was essential before wells could be shut in. All physical tests must be made under observation of a representative of the commission. Back tests on producing wells will not be affected by the new rules.

Malodorant required in gas sold in Texas

The Texas Railroad Commission last week issued its order requiring the introduction of a malodorant in gas sold in Texas. The order requires that companies must comply with the new rules within 60 days after July 27.

The new order applies to all persons, firms, corporations, municipalities or others engaged in the business of handling, storing, selling or distributing natural or liquefied petroleum gases, including butane or other odorless gases, for private or commercial purposes, or supplying the same by pipe lines or otherwise to any public building and/or buildings or the general public.

The commission, however, exempt odorization of gas used in natural gasoline plants, carbon black plants, natural gas gathering lines, or gas used in lease and field operation or for repressuring wells. It requires that all gas conveyed by pipe lines within the limits of any city contain the specified malodorant.

Rule 3. (a) The malodorant agent used shall be harmless and neither toxic nor nauseating; it shall be non-corrosive to steel, iron, brass, bronze or leather; and it shall be insoluble in water.

Rule 4. The malodorant agent to be introduced into natural gas shall be of such character as to indicate by distinctive odor the presence of gas when such gas is present in concentrations not greater than one percent by volume. The malodorant agent to be introduced into liquefied petroleum gas in either its gaseous or liquid state must be of such character as to indicate by a distinctive odor the presence of gas when such gas is present in concentrations not greater than one-half of one percent by volume. By this, it is meant that the gas shall be given an odor by adding an agent that will vaporize, dissolve in or be so mixed with the gas or liquefied petroleum gas as to produce an odor readily perceptible to normal or average olfactory senses of a person coming from fresh, ungasified air when gas is present not more than one part to 99 parts air in cases of natural gas and not more than one part gas to 199 parts air in cases of liquefied petroleum gas.

Methods of operation must have commission approval before they are installed. A report on results must be on file with the commission within 120 days.

Wide Cotton Valley spacing

William G. Rankin, Louisiana Conservation Commissioner, last week placed an 80-acre space rule in effect for the 8000-foot lower Marine horizon of the Cotton Valley field, Webster Parish, where there are 11 wells producing from that horizon.

Ohio Oil Company, Magnolia Petroleum Company, and United Gas Public Service Company at a hearing July 16 had asked that the commissioner grant a 160-acre space rule for the gas-distillate wells at 8000 feet and deeper. Woodley Petroleum Company and land owners asked that the 40-acre space rule placed in effect immediately after the discovery of 8000-foot production be kept in effect. The 80-acre space rule order was issued as a sequel to the hearing.

The order classes the lower Marine horizon at Cotton Valley as a gas-producing field, with gas production limited to 35,000,000 feet daily, which companies petitioning for the 160-acre rule said was all that they now had a market for. This allowable will be allocated to the 11 wells of the field. Evidence of geologists at the hearing showed that the gas-oil ratio of the field is 12,876 to 1.

The order just issued continues the regulation that wells be drilled in the center of 40 acres so that if it should later be decided to return to the 40-acre rule this can be done with a minimum of confusion.

[*See Proration, Page 55*]

Oil in the Courts

Gulf official continues fight to prevent removal to Madison for trial on anti-trust charges.

WILLIAM V. HARTMAN, vice president of Gulf Oil Corporation, took his fight to prevent removal to Madison, Wisconsin, for trial on anti-trust charges, before Federal Judge F. P. Schoonmaker in Pittsburgh, Pennsylvania, last week.

Former Senator David A. Reed represented Hartman and contended that the indictment returned by a federal grand jury in the Mid-Western city did not show that the Madison court had jurisdiction in the case. The argument was offered during a hearing on a writ of habeas corpus sought by Hartman, after U. S. Commissioner Roger Knox ordered his removal.

The Gulf official is one of 71 individuals under indictment. Twenty-four major oil companies and 3 trade journals are also charged and will stand trial in Madison beginning October 4. The indictments allege illegal operation of buying pools in the Mid-Continent and East Texas fields in an effort to artificially raise the retail price of gasoline and to "squeeze out" independent jobbers.

U. S. District Attorney Charles Uhl charged that attempts are being made to delay calling the cases for trial in October. He pointed out that a Texas federal court has ruled that the Wisconsin court has jurisdiction in ordering that O. H. Carlysle, another Gulf official under indictment, appear in Madison for trial. An appeal from this ruling made by Federal Judge T. M. Kennerly at Houston, is being taken to the Fifth Circuit Court of Appeals, at New Orleans.

Judge Schoonmaker took the matter under advisement.

At Washington last week, a demand was made for more suits of the nature of this one at Madison. (See Legislation, this issue.)

Care of Pipe Line Diesel Engines

Time spent in intelligent care will add profit to pipe line operations by reducing the frequency of service breakdowns, and by prolonging the useful life of the engines. Proper maintenance is the only means of stretching the life and overhaul intervals, once equipment is installed.

By ELTON STERRETT, Engineer

THE ideal pipe line station is one that will run uninterruptedly at a minimum outlay for fuel, current or other power source. As this ideal cannot be reached in machines, however well designed and built, because inevitably wear occurs under long periods of continuous service, and as oil field conditions are dictated by the territory where crude is found, rather than advantageous locations, the engineer of a pump station must do what he can to fit his equipment to its surroundings. If he is to procure the best performance service record possible, care of machinery after it is in place then becomes the only means of stretching the life and overhaul intervals.

Moreover, now that controlled and orderly production rates are the rule in practically all fields, it is no longer possible to install station pumping equipment and run it "all out" until the wells go dry, as the producing life of an average field is now measured in many years instead of a very few. With this change in production methods has come the need for revision of pipe line station operating tactics, and the engineer who keeps his job, or is promoted, is the man who works over the equipment provided him so as to eliminate shut-downs as much as possible; and, still more important, arranges his station so that the shut-down, when unavoidable, is of minimum duration.

The alert station engineer can cut down his time out for repair on the units under his care, and can greatly increase the time between such overhauls as are necessary by simply prolonging the useful life of equipment and accessories.

Driven at or near full-load during the summer, most pipe line station Diesel pump drives carry an overload, due to the various load factors being increased by lower temperatures, of from 10 to 25 percent during the winter. Frequently a Diesel is put on the line, especially in larger stations, and is run continuously for months, handling the same crude against unvarying load conditions, without there being a single let-down unless caused by line or power failure.

Work-over schedules for pipe line Diesels vary nearly as much in detail as do the chief engineers who outline them in appearance, but nearly every main line station has some sort of standardized routine for care and maintenance to follow.

Fuel Line Demands Attention

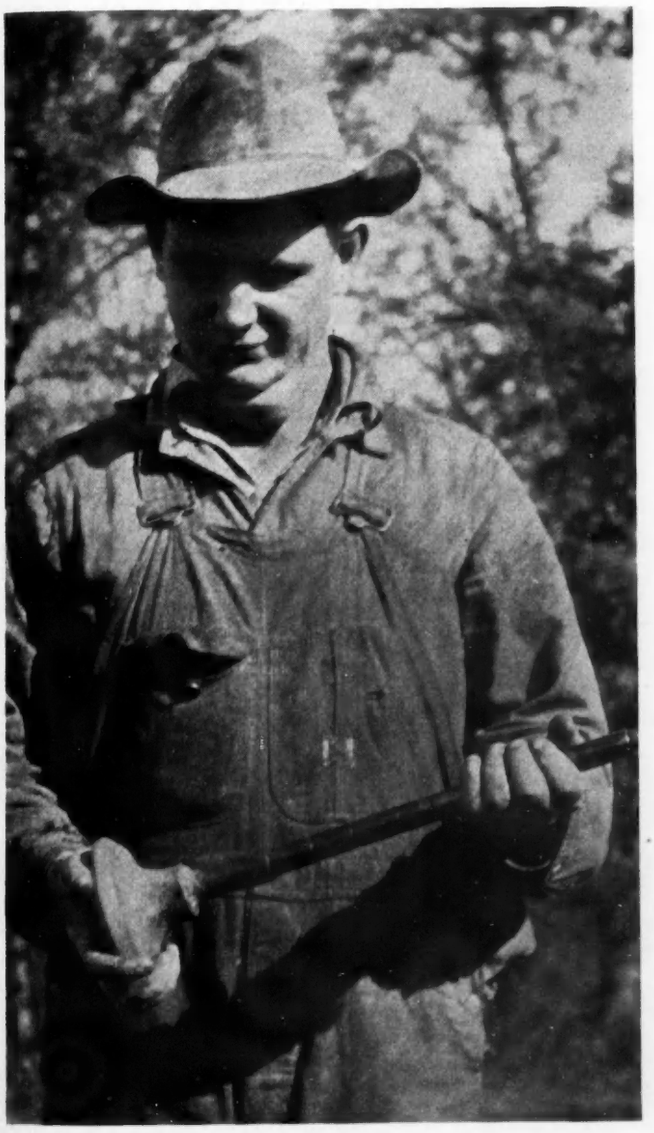
Regardless of the type of engine being operated, the fuel line, from day storage tank to the point of admission into the combustion chamber, demands and comes in for the most frequent attention. If the fuel be centrifuged and then filtered—and the "whirler" is rapidly becoming considered as integral a part of the Diesel station as is the air compressor —the intervals between servicings of the fuel lines, pumps, nozzles or inlet valves and the combustion chamber, if it is separable from the cylinder head, are scheduled less frequently than when the fuel is drawn directly from the day tank and subjected to mechanical filtration only.

Fuel lines, pump valves and pistons, and the indi-

vidual valves from each cylinder should be cleaned thoroughly (Figure 1). Average practice, where clean, sweet fuel oil is used, is to schedule this operation four times per running year. Better results on this job are obtained if all scraping be done with copper, brass or bronze tools, as a scratch so slight as to be hardly visible can cause considerable change in the amount of oil metered to a cylinder under the high injection pressures common to present Diesel practice.

Although all similar parts of a fuel pump are as nearly alike as precision manufacture and engineering skill can turn them out when originally installed, each set of parts tends to work into a harmonious inter-relationship which may be upset easily by the exchange of parts. To guard against this contingency, one large pipe line company insists that a fuel pump be cleaned one cylinder at a time, and each unit reassembled as far as metering and working parts are concerned before the next in line is dismantled.

Mechanical cleaning of such parts as fuel valves and closely matched pump parts may be largely superceded to advantage by chemical cleaning. Soaking of pump valves, for instance, in a non-corrosive solution for a few minutes is much more effective for removing gummy deposits than is the most careful scraping in the hands of a painstaking operator, and the solution never makes a slip which necessitates the otherwise unnecessary replacement of an expensive part.



Air inlet and exhaust valves are usually serviced as often as, and simultaneously with, the fuel lines and fuel injection mechanism, being ground or replaced as indicated by the amount of wear sustained. Carbon accretions and flint hard deposits may be soaked free or softened to where they yield readily to mechanical removal in properly proportioned hot solutions.

Tenth Article of a Series

Valve Truing Lathe Advantageous

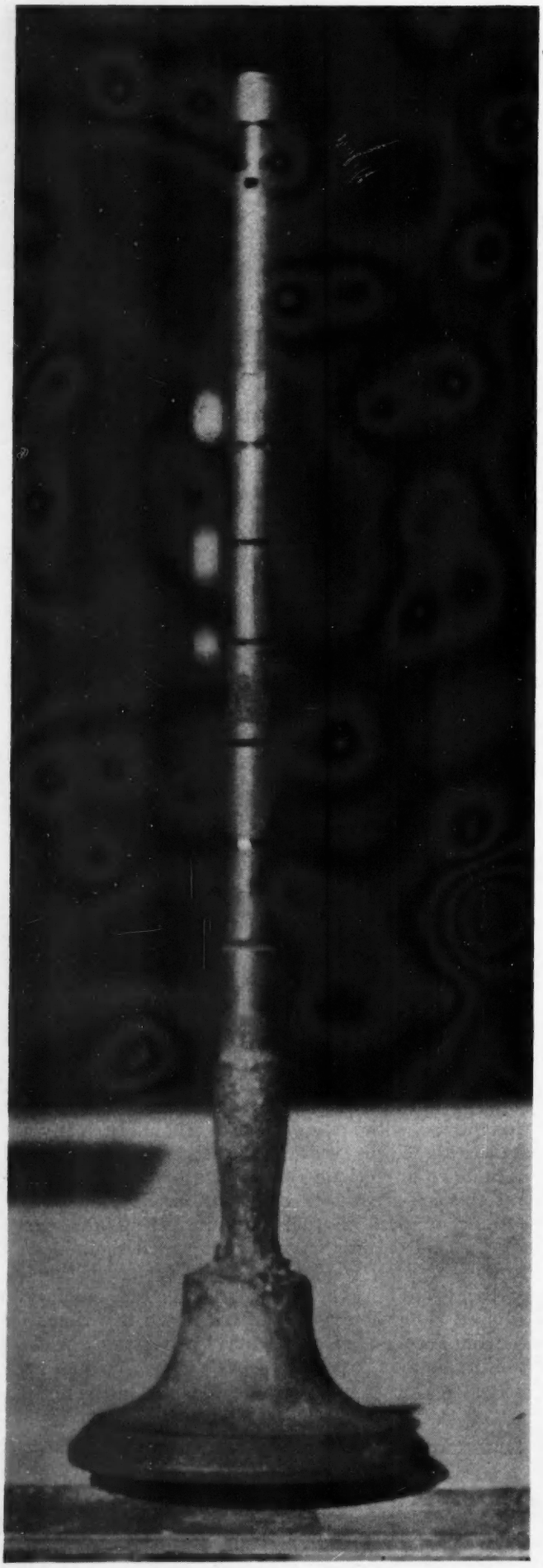
The outlay of a relatively small sum for the requisite valve truing lathe and a set of valve seat reamers quickly repays the expenditure in down time saved and longer and more effective valve service. The valve truing lathe also may be used advantageously in testing valve stems for eccentricity, warping or bending. (See Figure 2.) If a stem begins to fail in any of these three ways and if the condition does not readily permit straightening or correction without over-stressing the metal, discarding it at once will save a stuck valve later, with possible serious engine damage.

Once a year seems to be the commonly accepted interval for working over the cylinder, piston, rings and bearings within the crankcase where operating conditions and load permit the engine to operate for that period without enforced overhaul. In many instances the slight wear, light carbon formations, and in-built characteristic ruggedness of the Diesel permit this apparent lack of attention. But, unless experience with both fuel and lubricating oil over a long period of time have demonstrated their lack of trouble-forming weaknesses, it is safer for the operator to follow the advice of the old chief who advised his engineers to "tear it down two times for the one needed so as to stay two steps ahead of the breakdown."

One major company schedules the inspection, in

FIGURE 1

Clogged lubricating grooves on this valve stem retarded closure and allowed "bottlenecking" to start.



rotation, of one cylinder on each Diesel in its station every 90 days; this to include three distinct operations:

1. Pulling the piston, to permit careful micrometer checking of diameter at 3-inch intervals throughout piston length, measurements being made both parallel to and at right angles to wrist-pin axis. Similar checking of liner wear is made, at like intervals and in planes corresponding to those used for piston measurement.

2. Careful determination of ring wear, the ring being cleaned thoroughly and gap width at overhaul checked against the value appearing on the station log, where the installation gap was recorded at the time the ring, if a replacement, was first placed on the piston. By means of two clamps, one at each side of the gap, a tension screw and a small, closely calibrated spring scale, the expansive force, or resistance to closure, of the ring is measured when outside the cylinder, and this value at proper gap aperture carefully determined and checked against that shown at time of installation.

3. Thorough cleaning of the piston, both on the outside or wearing portion and inside, to remove any accumulation of carbon which might in service promote the formation of hot spots, with their attendant uneven and greatly accelerated wear. On this, as on other cleaning operations, the company specifies carbon removal may be aided only with a brush of fine brass wire or a copper-faced scraper, all carbon deposits being thoroughly loosened and largely removed by the soaking of the piston in a hot chemical solution.

After careful checking of the condition of the cleaned surfaces, one worked over by a careful mechanic and the other cleansed chemically, it was found by this pipe line company that the brighter surface obtained by the hand cleaning was not actually as clean, so far as abrasive materials imbedded within the metal were concerned, as was the chemical job; and also that the dull surface left when carbon and scale are dissolved or washed free takes and retains a complete oil film in service almost instantly, while the hand-cleaned surface must again wear itself in.

If the first cylinder, thus renovated and checked at the end of three months' run, is judged as indicating an engine overhaul, the entire unit is then reworked according to the same plan. If, however, the condition of this one piston is deemed satisfactory by the chief and/or the master mechanic, complete workover is deferred, a second cylinder being dismantled and tested at the end of six months from the last overhaul.

Care Needed in Ring Removal

Careful manipulation in the removal of rings, by using thin shields of soft metal to bridge the grooves, does not injure nor distort the ring, but a check of each ring for circularity should be made before reinstallation. This test (Figure 3) consists in compressing the ring with a wire or band around its

FIGURE 2

Valme stem dangerously weakened by erosion of exhaust gases as warped stem delays action of valve spring.

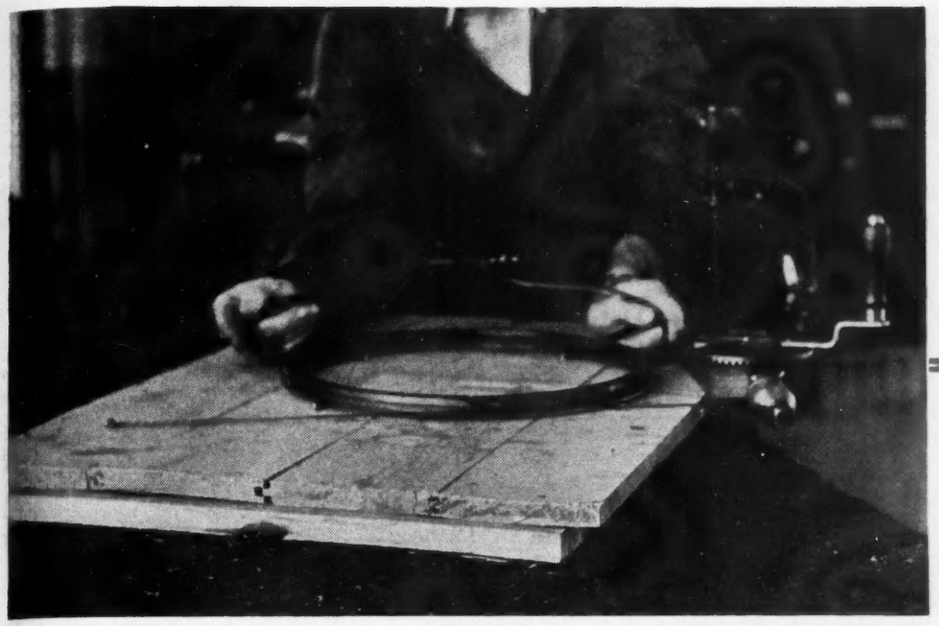


FIGURE 3

Calipering ring for "plus" circularity while ingenious twist drill squeezer holds gap at correct dimension. Diameter being measured must be less than that through gap if ring is to avoid slap or fluttering.

circumference until the operating gap is attained, when the diameters through the gap and at right angles thereto are measured. Unless the gap dimension is the larger, the ends of the ring will slap in service, give but partial seal against cylinder or liner wall, and the ring will wear excessively on the quarters 90° from the gap. By this, as by many companies, a ring which has been run while stuck in the groove is considered as ruined and is discarded without further measurement.

The accurate determination of tension or expanding force in a ring is especially important, as there must be the proper tension if a unit is to deliver the long, uninterrupted service expected and demanded in main line station pumping. The measurement of this force, as recommended by one piston ring manufacturer, may be obtained by holding the ring upright on a platform scale, with the gap at 90° to the point of contact between scale platform and ring. Loading is then applied to the ring at a point diametrically opposite its support to bring the ends together until the desired operating gap is attained. The scale reading now gives the diametral tension, in pounds, of the ring. If a platform scale is not available, tangential tension may be determined by anchoring one end of a piano wire, wrapping it once around the circumference of the ring, and fastening the free end to a spring scale (Figure 4). By applying force on the scale the gap may be closed to the required measurement, when the scale will show the tangential tension—approximately one-third that of the direct or diametral figure.

By using whichever of these methods is the handier and taking a reading of the tension, diametral or tangential, of each replacement ring as and when furnished by the manufacturer, assuming an arbitrary gap of 0.006 inch per inch of piston diameter, and keeping an accurate log of the service location of each ring, it is possible to make a quick check-back during overhaul and determine exactly the loss of tension suffered by each ring in operation. If the spread is more than 10 percent below the orig-

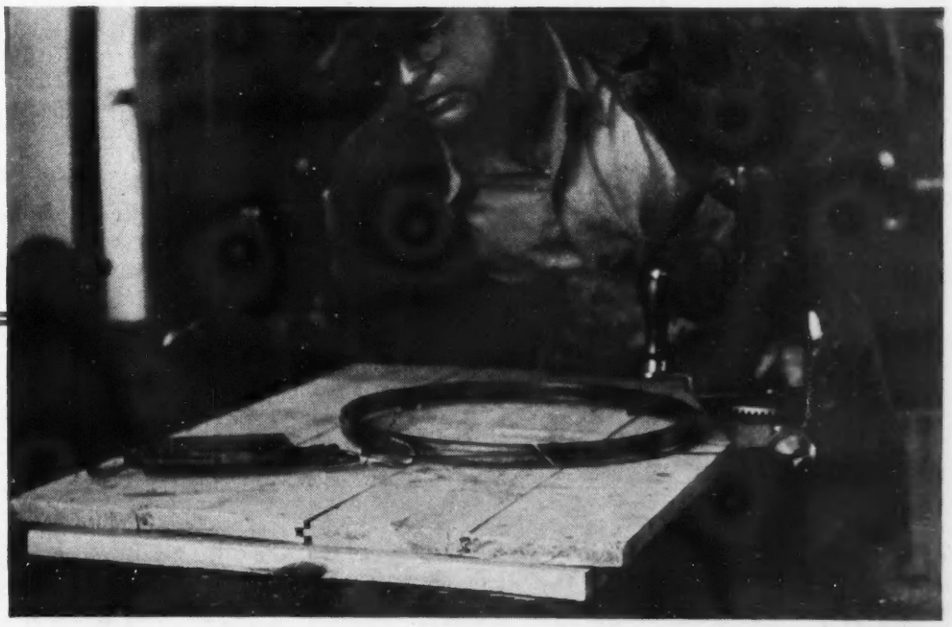


FIGURE 4

Checking ring for tangential tension with spring balance. If this reading exceeds that of ring when new it is proof ring was distorted while being removed from piston.

inal figure, better compression and improved operating will be obtained by replacement of the ring.

In the absence of any previously accumulated data on ring tension, the correct amount may be closely approximated by employing the formula

$$T = K \times C \times G \times \left(\frac{A}{B} \right)^3$$

Where

T—Diametral tension
K—2,800,000 for rings 5/16 to 1¼ inches wide
C—Face width, in inches
G—Free gap in ring, inches
B—Wall thickness, inches
A—Ring diameter, inches

Obviously this formula is applicable only to those rings whose inner and outer circumferences are concentric, and may be used for any one-piece ring with results which are comparable, although developed by one ring maker for checking his type of ring. Table I lists commoner tensions.

For removing and replacing the larger sizes of rings, an expander will pay for itself in the first overhaul, and continue to pay dividends on the investment in bettered compression and more even oil distribution where the rings have been so handled over the usual screwdriver and hacksaw shim method.

TABLE I

Desirable Ring Tension for Diesels*

Diameter, Inches	Width, Inches	TENSION—POUNDS	
		Diametrical	Tangential
10	5/16	42–52	14–17
10	½	59–69	20–23
11	5/16	45–55	15–18
11	½	65–75	22–25
12, 13 and 14 inch rings same as 11 inch of same width.			
15	½	65–75	22–25
15	⅝	85–95	28–32
16 to 20 inch rings same as 15 inch of same width.			

Tension for rings of intermediate fractions and same width may be interpolated directly from above values in range of sizes most commonly used in pipe line Diesels. For a ring of widths other than those given but diameters as shown, the tension will be directly proportional to the ratio between ring widths, and thus readily computed.

*Adapted from extensive table appearing in American Hammered Piston Ring Handbook

An important part of each engine overhaul specifies a four-stage washing of the entire crankcase interior. First the surfaces are washed down with a strong chemical solution, which is allowed to collect on and soak into the carbon and sludge deposits. When the cleanser has acted, it is followed by a thorough going over with a high pressure jet of hot water which penetrates into and gets behind the carbon deposits and sludge to sluice them into the sump. Following the rinse, the interior is carefully dried with a blast of heated air. When all surfaces are dry, the air blast is tied in with an atomizer on a tank of light oil so lubricant is deposited in a fine spray over all surfaces, working and stationary alike.

All gaskets should be checked at each overhaul, and if of copper or copper-faced should be heated carefully to a uniform dull red to soften the metal, or remove the so-called service temper, before being replaced in service. Where plastic or semi-plastic gaskets are used, replacement is expected each time the pressure on them is released or contact broken on either surface, and much time during actual overhaul can be saved by having these all cut, marked, and bolt holes punched before the Diesel is dismantled. Many stations operating Diesels in pump drive service keep one or more full sets of gaskets on hand at all times against possible sudden need.

Water System Maintenance

A fairly plentiful supply of surface water in most instances has eliminated the closed cooling water system for internal combustion power units in the East Texas field, but introduced a jacket cleaning chore involving the removal of silt and rust at intervals varying with the time of year and amount of rainfall.

One station, discovering that the silt carried in its

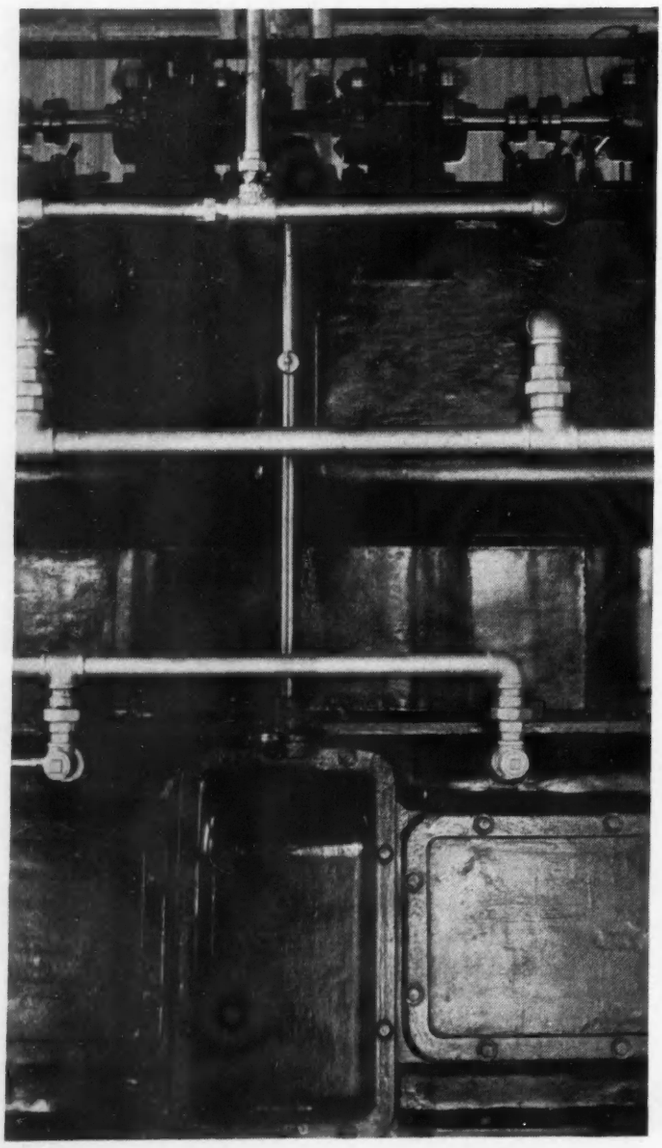


FIGURE 5

Tees and unions simplify flushing of engine jacket and save wear and tear on threads in engine casting.

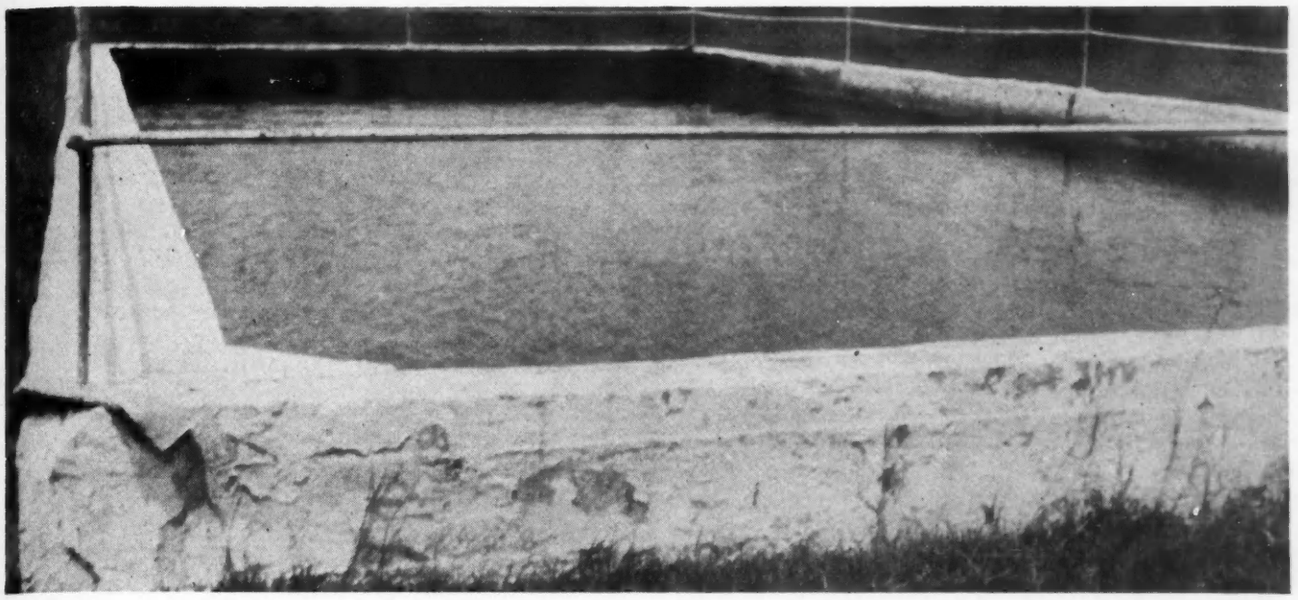


FIGURE 6

A pit this size and ten feet in depth can be cleared of algae with one pound of copper sulphate by heating solution and spreading atop the water against three pounds required if mixed within the body of water.

cooling water supply tended to bank rapidly between the end cylinders and the water jacket, and to cause hot spots thereon, more than halved the time required for washing out the jacket by a simple and inexpensive revision of the cooling water piping.

Incoming leads, as originally installed, tied into the base of each engine with two street ells and short branches from a horizontal feeder, and had to be taken down joint by joint and completely removed whenever the engine needed flushing out, as only a half-inch connection was tapped into one of the ells to provide for cold weather draining of the jacket.

By removing the ells and substituting therefor two tees, and putting an additional union into the line so that one came just above the branch of each tee, instead of there being one on the reach between inlets, the line was made more rigid so as better to resist the loosening effect of engine vibration. With this new hook-up, shown pictorially in Figure 5, in which the lower aluminum line is the cold water inlet, cleaning of the jacket could be accomplished simply by removing the plug shown at the outer end of each tee. This done, the accumulation of rust and silt could be quickly washed out, leaving the cooling system undisturbed and all tight joints still unbroken.

Revising the upper or outflow line with unions on each of the vertical drops also simplified the removal of this line for periodic removal of scale, and did away with the need for frequent breaking and making up of the threads in the engine jacket casting—switching the point of wear from an expensive and irreplaceable (and soft) cast iron thread to an economical and easily replaced malleable union joint.

Control of Cooling Water Scum

Algae, perhaps more widely known as "pond scum," every summer indirectly cause many internal combustion engine failures, through interference with the cooling water system—even though the actual breakdown may be anything from a burned-out main bearing to a scored cylinder or a seized piston.

Appearing first as small greenish patches—the spectacular red series or blood algae are not so resistant to heat or surface disturbance of their water bed and rarely cause serious trouble—the algae spread rapidly under favorable conditions of light, air and warmth, coalescing into larger and larger masses and developing so fast that they soon cover the entire pond, insulating the surface from air contact and preventing natural cooling through evaporation.

Mechanical means of clearing the surface is at best but a temporary makeshift, as no matter how carefully the job is done there will be myriads of spores left to carry on the work of again polluting the water. Since light is essential to the algae cycle of development, covering the water with a tightly fitting roof is theoretically effective—though expensive, and this expedient also brings in the drawback of preventing radiation and evaporation, with consequent increase in water supply temperature.

In small cooling systems, such as are used with the average well pumping engine or at the field pump station, the only exposed water surface is that in the make-up or surge tank. And though this water supply be drawn from an artesian well or from some other uncontaminated source, it is but a question of a short time before wind-borne spores settle on the surface, and the tiny thread-like forms characteristic of the groundwork of the net are visible.

If not promptly cleared up, these soft, slimy masses eventually are drawn into the cooling system, there to clog the cellular spaces in the radiator or to form a coating along the water courses therein and greatly reduce the rate of effective heat transfer. Where the heated water is passed over a small cooling tower, the growths of algae in these spots seem to thrive, promoting rapid rotting of the wooden diversion trays and tending to cause channeling of the water—again greatly reducing cooling effect.

As most of these small units are run with an enclosed system, and as none of the cooling water need

be allowed to escape, a wider choice of remedies is available than is the case where there is danger of contamination or pollution of some flowing stream.

Tests by the U. S. Department of Agriculture demonstrate that the different species of algae most commonly infesting cooling water systems vary widely in their response to controlling agents. *Uroglena,* for instance, is destroyed by a concentration of only 0.4 pound of copper sulphate per million gallons, while *Baggiatoa* requires 41.5 pounds of the chemical in the same amount of water. These determinations were made at a standard temperature of 60° F. and higher concentration of the chemical, widely known as "bluestone" or blue vitriol, is required as the temperature drops below that figure. Since the spread of algae is slowed by lowered water temperatures, becoming practically non-existent save in the tropics during the winter months, dosages quoted are effective.

Since the average switcher, field pump operator or main line station engineer does not have access to a laboratory for determining the name and nature of the "pond scum" which is threatening his engines by choking or clogging the cooling system, he can play safe only by assuming that among the algae growing in the water supply are families of *Braggiatoa,* and dose the water according to the Government specifications for its eradication.

That this problem of water treatment for algae control is not as simple as it might seem was proved by one pump station where a rectangular concrete tank 50 x 20 x 10 feet in dimensions was used for make-up water, when full holding a supply of approximately 78,000 gallons.

To treat this amount of water for algae, according to the U. S. D. A. recommendations, would require almost exactly 3 pounds of commercially pure copper sulphate. As the usual method of applying this chemical is to put it in a loosely woven cloth bag and lower it to the bottom of the body of water to be treated, this plan was followed, with but indifferent results.

Following this initial treatment, the next batch of water was dosed experimentally by making up a solution of chemical in 7½ gallons of water and spraying this over the surface of the pond. The algae disappeared completely in one-third the time required for treatment to become evident with the bag method.

His interest aroused by this surprising result, the plant engineer—not a water specialist—constructed a glass model of the water tank, 50 x 20 x 10 inches in size, and experimented with the solution and its dispersion through the comparatively small body of water. Starting with the same proportions of solution, of U. S. D. A. recommended concentration, and checking each filling after treatment by qualitative analysis of the water, he found that raising the temperature of the solution above that of the water to be treated increased the rapidity and completeness of algae removal, while lowering the temperature had the expected opposite effect.

Following a series of experiments in the model tank, the reserve pit was first inoculated as per specifications with a solution containing 3 pounds of copper sulphate, solution temperature being the same as that of the pond, 80° F. Then, on successive fillings of the pool, the temperature of the solution was varied by increments of 20° above and below that of the pool, with the amount of chemical needed to equal standard or even-temperature conditions being shown by the left-hand curve in Figure 6.

At a temperature of 80° above that of the pool, or 160° F. for the solution, it was found that a 7½-gallon solution containing only 1.1 pounds of copper sulphate gave the desired concentration at the top of the pool, though a check sample, drawn from just above the bottom, showed a strength there of only 18 percent that found at the surface.

Since algae are surface growths, their mass being almost all within the upper 12 inches of the water and diminishing rapidly with the depth from which a sample is drawn, this surface application of the copper sulphate is exactly what is desired, and will clear the water of the growth without wasting solution for treating the larger portion of the fluid which is as yet uncontaminated.

Following the discovery that hot solutions, tend-

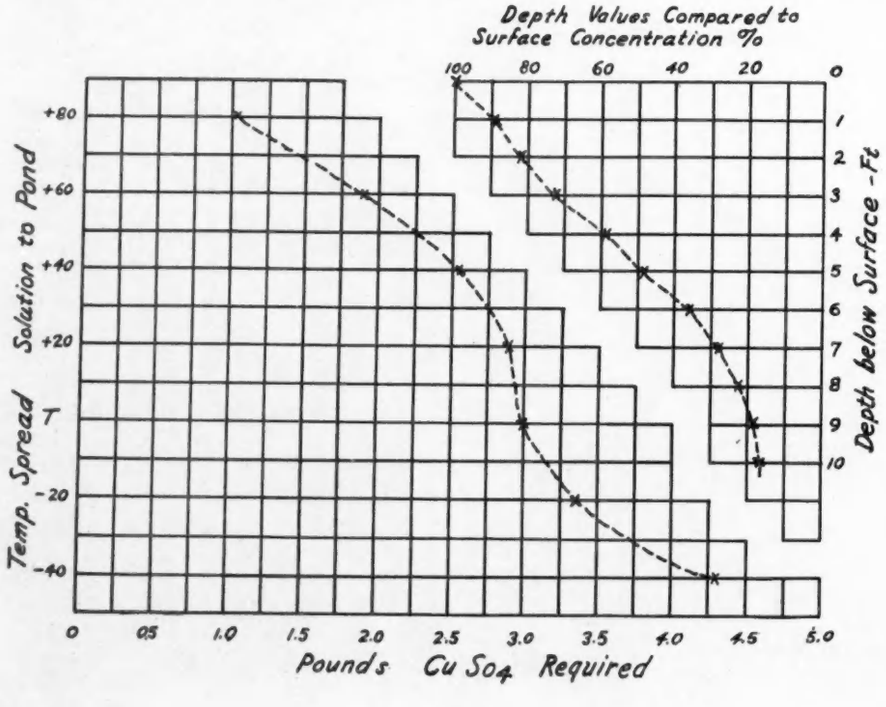

Depth Values Compared to Surface Concentration %
100 80 60 40 20 0
Temp. Spread Solution to Pond
+80 +60 +40 +20 T -20 -40
Depth below Surface - Ft
1 2 3 4 5 6 7 8 9 10
0 05 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0
Pound's Cu So4 Required

FIGURE 7
Effect of temperature on algae solution effectiveness.

FIGURE 8

A block of wood with a ball bearing in it and the extended shaft of an air compressor make a satisfactory "lathe" for resurfacing worn pump rods and save hours of tedious hand work for the station operator.

ing to spread thinly on the surface because there is no mixing of fluids brought about by a thermic circulation, are most effective, a series of corroborative tests was run. In this check, regarding the surface concentration as 100 percent, the concentration was then determined at each foot mark on the gauge below the surface. Although it would be reasonable to expect these changes to plot in a straight line, with the heavier fluid of the solution gradually mixing with and falling through the less dense body of fluid in the pit, checks after 24 hours showed that the concentration remained stronger at the top, decreasing in a curve, never far from a theoretically straight line, to give a bottom concentration of less than one-fifth that found at the surface.

When this heavier solution must disperse upward through a body of water lighter than itself, as is the case with bottom application of the chemical, the effective protection afforded against algae is greatly reduced as compared to that in which the solution is evenly distributed atop the water to be treated.

When open concrete pits or uncovered tanks are used for storage of cooling water, the formation of algae is greatly lessened if, after each draining, the walls and bottom of the container are scrubbed with a 1 percent solution of copper sulphate. If this precaution is taken, the masses of algae deposited in the interstices of the pit surface during draining are done away with, and initial contamination of the incoming water is avoided.

While some of the scale-treatment chemicals added to water in various localities are also relied upon to remove or minimize algae growth, only those which act to clear the water mechanically may be considered—without trial—as being partially effective. In this class, tannin, which forms an invisible network and literally filters the water as it passes through it, will act to remove what spores it entraps, but a tannin-treated water is no more immune against inoculation from the air than a similar body of clear water.

Sodium dichromate ($Na_2Cr_2O_7$) is sometimes used to prevent certain kinds of scale in cooling systems, and is effective against algae as well, though the cost of treatment of water for this purpose, when compared with the copper sulphate method, is several times that when using the more common copper sulphate.

In closed systems, where the efflux from the engines is cooled in a heat-exchanger composed of banks of tubes over which untreated surface water is flowed to carry away the excess heat, masses of algae will form on iron or steel tubes and adhere so tightly as to resist the washing effect of the water normally sprayed on them, and even withstand flushing with a hose at ordinary hydrant pressures.

A system in which copper-alloy tubes are used within the spray tower employs a combination of the anti-algae effect of copper and the fracturing and rubbing obtained through mechanical movement of the tubes to prevent the building up of algae accretions.

In this system the long tubes, an inch in diameter and 20 feet long, are installed in cast iron headers, with the tubes bowed or bent some 6 inches from straight at the time of installation. The headers being rigidly held in place with steel tie-rods, any expansion of these copper tubes as they are filled with hot water must result in an increase of the bowing. Then, if the flow of hot water through a section of the tubes is cut off, the chilling due to continued flow of water over the outside of the bank results in contraction, with the truss rods withstanding this action as well, the tubes in consequence being pulled nearly straight. This governed alternating flexing and straightening of the tubes, although slight, is sufficient to break loose and allow to be washed away any aggregation of algae which may have caught hold and begun to build up.

Since a copper sulphate solution is poisonous, any wasting of water treated for algae must be regulated to take place when the stream into which it is to flow is running a large volume of water, and the sulphate concentration thus cut to a point where it

is harmless to fish and any animal life which might drink of the water.

Where a stream for carrying away the waste is not available, evaporation in open pits may be used, and the earth then spaded up or covered with a fresh layer of dirt to insure against the thin coating of copper sulphate, deposited by evaporation of the water carrying it, from being contacted by anything which it might poison.

Prolonging Pump Rod Service Life

A combination of packing abrasion, increased many times by free sand carried in the water, with the erosive action of corrosion, frequently shortens the useful life on pump rods on small units handling surface water in East Texas long before the actual service life of the metal is impaired.

On one set of pumps handling cooling water to a battery of internal combustion engines, and also picking up the hot run-off water and forcing it through a spray cooling system, the wear of the steel rods usually furnished was so rapid that they were replaced with brass rods, as eliminating the worst of the corrosion loss. The softer brass rods, however, were more easily cut by the sand grains carried—caught in—the packing, and it was but a short time before the section of rod passing through the gland became worn down, and so fluted that it was difficult to control leakage at this point.

Replacing of the rods was the only solution of the trouble, and the old parts, allowed to accumulate around the place, were useful only as temporary stop-gaps should a rod fail in service when no new replacements were on hand.

Draw-filing and other attempts to hand-work the rods into shape entailed hours of labor, and left a rod which was still far from the true cylinder desired for efficient work against any type of packing. Since the pump station possessed no machine-shop equipment, turning of the rods, while theoretically the solution, was impossible until a "jury" rig was devised to take advantage of the power available in the small gas engine used to drive the starting air compressor.

By welding a nut which fitted the threaded end of the pump rod to a stub which would screw into the end of the air-jammer shaft, and improvising an outboard bearing from a Ford front wheel bearing which happened to fit the piston end of the pump, a means was provided for revolving the rod rapidly, and taking the truing job out of the elbow-grease class.

Rods which required hours of work with a file and abrasive to get even a passable surface on the corrugated rod were turned down and polished to a perfect cylinder in but a few minutes' time, and the job produced was just as accurate as desired. By extending the resurfaced part of the rod for an inch or more beyond former packing travel the tapered section formed was carried out beyond any possible contact with stuffing box or gland.

So long as the reworked rods have greater cross section than the turned-down portion on which the piston is carried, there is ample factor of safety still present in the metal; while two-piece junk rings can quickly be formed of heavy sheet copper to close the gap otherwise existing between the turned-down rod and the packing gland.

The device is expected to add many months of useful life to pump rods, as it is planned to true up the worn surfaces for at least four times before the reworked section will become too small for service.

Cam Care Important

An occasional cause of unsatisfactory operation lies in cam wear; an abrasion taking place so slowly as to go practically unnoticed, but which in time can change the cycle of an engine sufficiently to impair its governing or increase the fuel rate beyond economic limits. Where adjustable within the variation obtained by shifting one tooth in the gear train driving the camshaft a makeshift compensation for wear on the face of the cam may be partially obtained. But the setting forward of the cam to take up wear at the beginning of the lift also sets ahead the timing of valve closure, and thus cuts into the number of degrees in the arc of each camshaft revolution during which the valve is open. The depression formed by the impact of the follower behind the lift is also objectionable, not only because of its noisiness, but also because it permits the valves to pound unnecessarily against their seats, hastening seat and valve disintegration.

Sets of cams, keyways cut and set-screws or other retainers already placed, may be had from most engine manufacturers, already numbered for proper installation on the camshaft. Utilization of these as soon as the existing cams show a depression or deviation, under straight edge, from their former outline will better engine operating characteristics and tend to extend the time between overhauls as well as to cut down the amount of work to be done within the Diesel at that time. One pipe line company, operating 400-horsepower units, scraps as unserviceable all cams showing a deviation from original cam outline of 0.003 inch on either approach or relief faces of cam.

There is, of course, an appreciable saving in fuel oil when cams are kept at operating maximum, but this in itself is of small moment to the pipe line operator, who in most instances draws the slight amount of crude needed for power purposes from his line without charge or expense therefor. The pipe line gain through cam upkeep is in lessened Diesel wear, otherwise sustained when burning excess fuel to maintain rated load.

The more frequently the scheduled overhaul, the less likely the service breakdown, and the longer the ultimate useful life of the Diesel will be, and time spent in intelligent care and maintenace of these units adds profit to pipe line operation and minimizes the possibility of injury through engine wreckage.

Another of the "Equipment Care Series" articles to appear in the next issue will discuss maintenance and repair of engine crankshafts and bearings.

Reprints of the foregoing article are available at nominal cost. Write The Gulf Publishing Company, Houston, Texas.

HER TINY FOOT EXERTS 1300 POUNDS OF PRESSURE

A typical example of Goodrich improvement in rubber

SHE may be the daintiest little thing you ever saw, but when she tramps on the brake pedal of her car, pressure as great as 1300 pounds per square inch shoots through Goodrich hose to stop each wheel.

The entire development and practical application of the hydraulic brake depends on such a hose. When this brake was invented, hose then known could not transmit enough brake pedal action to make these new brakes efficient. There had to be a flexible connection because of the motion of the car, but the best hose then made expanded too much under such pressure, and of course expansion dissipated pressure in the line.

For ten years Goodrich engineers have worked on hydraulic-hose problems with automotive experts. Goodrich hose can now stand 5 times the normal quick emergency stop pressure, 3 times the highest possible pressure that could be exerted by a circus strong man; it passes long "whipping tests" to prove it can stand the flexing of a moving automobile in use. And the danger of expansion is overcome—present Goodrich hose expands only about half a cubic centimeter per length—hardly more than a large tear drop. Not one brake failure has ever been traced to failure of this Goodrich hose. In fact the hose outlasts the automobile itself.

Next time you step on the brake, remember this Goodrich hose and let it remind you that the skill and experience which made this unusual hose possible is applied every day to every product Goodrich makes—transmission and conveyor belt, all kinds of hose, and hundreds of others—to make each one longer lived, better suited to its task. Specify Goodrich when you buy rubber, and you will save money. The B. F. Goodrich Company, Mechanical Rubber Goods Division, Akron, Ohio.

Goodrich

ALL *products problems* IN RUBBER

RESERVE RANK OF AUSTIN CHALK HORIZON GREATER DUE TO

New Production Practices

By EARL S. POST
Staff Writer

AUSTIN chalk production in the Balcones fault zone becomes an important factor in South Texas reserves as a result of revised production methods.

This particular horizon, found to be productive fifteen years ago when the district was in its infancy, had been virtually dormant from a standpoint of development until mechanical developments several months ago completely changed the situation.

There is no one change in methods of operation which definitely accounts for the increased recovery from these horizons. It appears to be due to more of a general improvement in manner of drilling and completing.

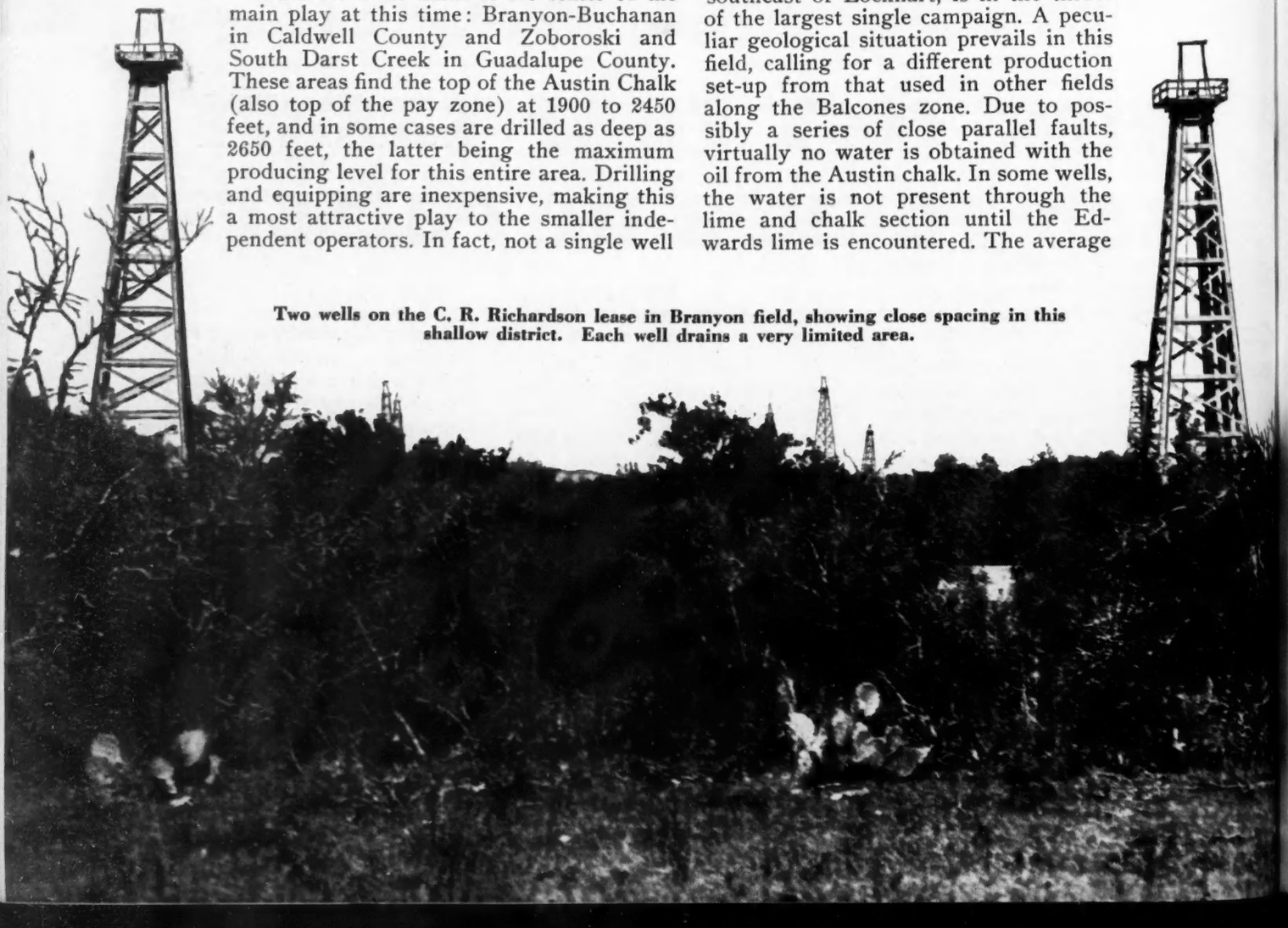
Three Fields Involved

There are three fields in the center of the main play at this time: Branyon-Buchanan in Caldwell County and Zoboroski and South Darst Creek in Guadalupe County. These areas find the top of the Austin Chalk (also top of the pay zone) at 1900 to 2450 feet, and in some cases are drilled as deep as 2650 feet, the latter being the maximum producing level for this entire area. Drilling and equipping are inexpensive, making this a most attractive play to the smaller independent operators. In fact, not a single well has been drilled by a major company in this area since the recent play commenced.

Two Kinds of Producing Sections

There are two classes of producing sections in these fields: Crevices which provide unusually large producers, and fractured or broken zones from which comparatively small pumping wells generally result. The lure of big producers, linked with the reasonable assurance of a payout and profit from the smaller wells is sufficient to cause these independent operators to carry on a rather hot development and exploratory campaign.

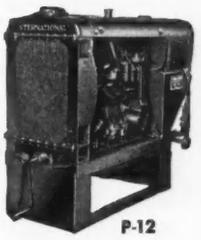
Branyon sector, about seven miles southeast of Lockhart, is in the throes of the largest single campaign. A peculiar geological situation prevails in this field, calling for a different production set-up from that used in other fields along the Balcones zone. Due to possibly a series of close parallel faults, virtually no water is obtained with the oil from the Austin chalk. In some wells, the water is not present through the lime and chalk section until the Edwards lime is encountered. The average



Two wells on the C. R. Richardson lease in Branyon field, showing close spacing in this shallow district. Each well drains a very limited area.

INTERNATIONAL ENGINES

Cut Pumping Costs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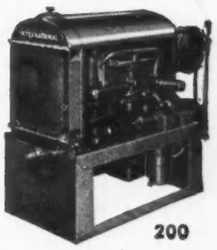
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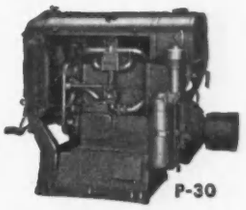
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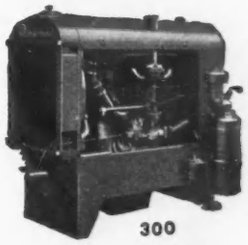
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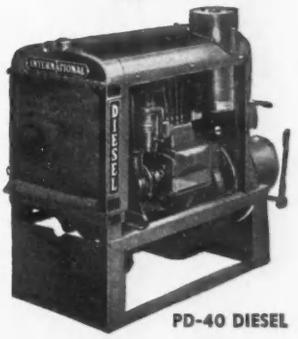
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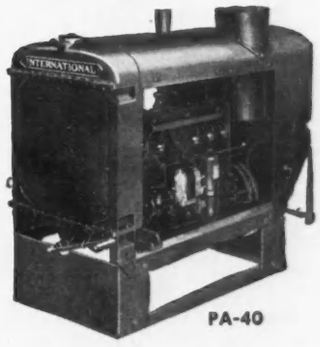
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Model	No. Cylinders	Max. Horsepower	Cont. Load Horsepower—80% of Max. H. P.	R. P. M.
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200	4	33.5	26.8	1000
P-30	4	40	32	1150
300	4	52.5	42	1050
PA-40	6	59.5	47.6	1400 to 1800
PD-40 Diesel	4	62.5	50	1250
PA-50	6	66.5	53.2	1400 to 1800
PD-80 Diesel	6	100	80	1400
PA-100	6	110	88	1400

The International line ranges up to 110 max. h. p. It includes 4 and 6-cylinder engines for gasoline, kerosene, distillate, or natural gas, and 4 and 6-cylinder Diesel engines. They are available in compact power units as shown here; in International Industrial Tractors (wheel and crawler types); and as the power for a variety of equipment built around them. See the nearby industrial power dealer or Company-owned branch for complete information.

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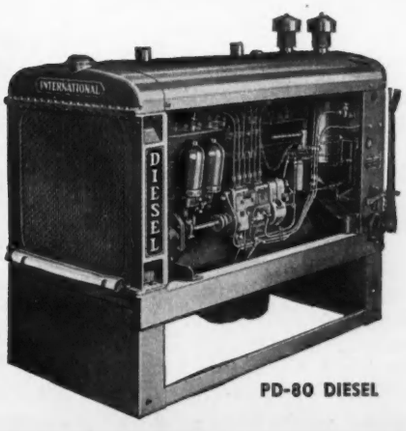
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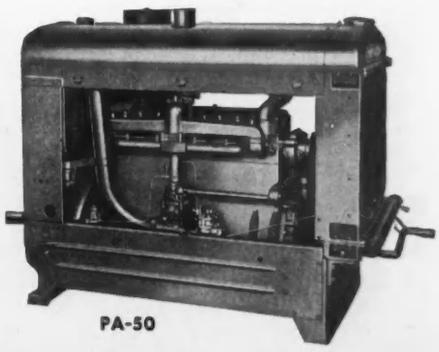
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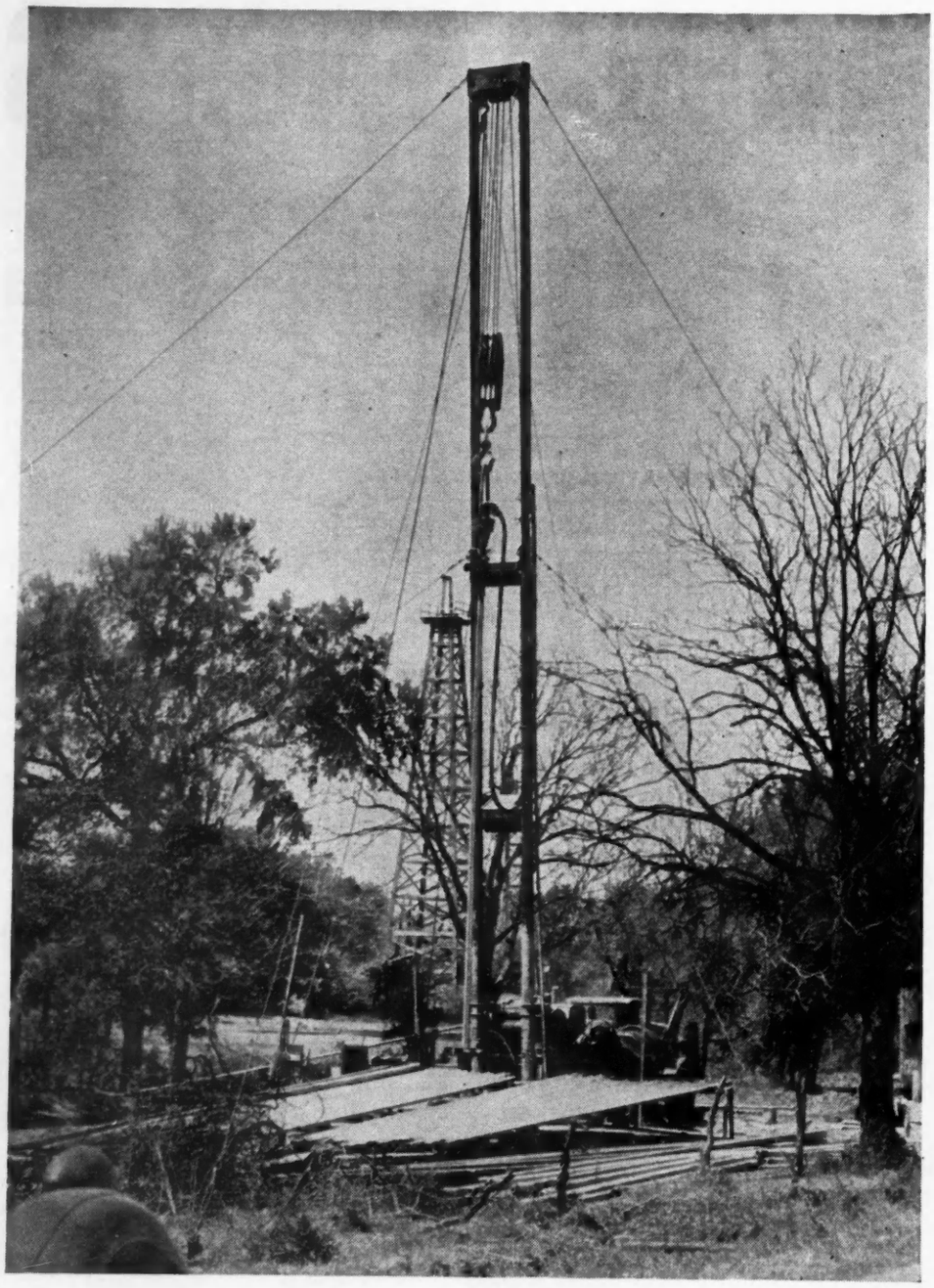
INTERNATIONAL Industrial Power



One of the portable type of gasoline rigs being used at Branyon. It is on Taylor Refining Company's lease.

producing depth of Branyon field is from 1950 to 2100 feet, the top of the Austin chalk, to around 2250 feet, in the Buda lime.

Drilling Practices

There are several methods of drilling wells in this field. Some of the operators drill through the entire section of Austin chalk, stopping in the Eagleford shales, or a short distance below that in the Buda limestone. Casing, customarily 5½-inch, is set on top of the chalk and the well completed in the usual manner.

Some of the operators are of the opinion that mud against the formation tends to seal the porosity and greatly reduce the potentialities of the well. These operators drill to the top of the chalk and determine through cores or samples of cuttings at which point the casing is to be cemented. After sufficient cement time, the well is drilled in with oil, light mud or water, and carried to the desired depth. At this point, the fluid is quickly unloaded from the hole.

Leave 200 Feet of Open Hole

Regardless of the manner of drilling, an average of at least 200 feet of open hole is left below the casing seat. The Austin section in this field ranges in thickness from 180 to 240 feet, depending on the faulted condition. Below this generally is a thin section of Eagleford shale, followed by the Buda limestone. Only a few feet of this lime is drilled. The tests then are either bailed or swabbed for production.

Some operators immediately treat the wells with acid, but a practice preferred by many is to complete wells on pump in their natural condition. They are pumped for a period of from several days to several weeks, during which time they allow drilling fluid and other undesirable sediment and contamination to drain from the formation. The tubing and rods then are pulled and the hole cleaned out. An acid treatment, generally consisting of 2,000 gallons to 5,000 gallons, depending on conditions, is administered to the test under pressures ranging up to 750 pounds. The fluid is kept in the hole, under this pressure, for a period of 6 to 12 hours.

Acid Reaction Varies

When completed naturally, wells in the slightly fractured zones or sections in which porosity is hardly more than hair-line fissures through the chalk and lime, the initial production ranges from 3 to 20 barrels per day. The reaction after acid treatment

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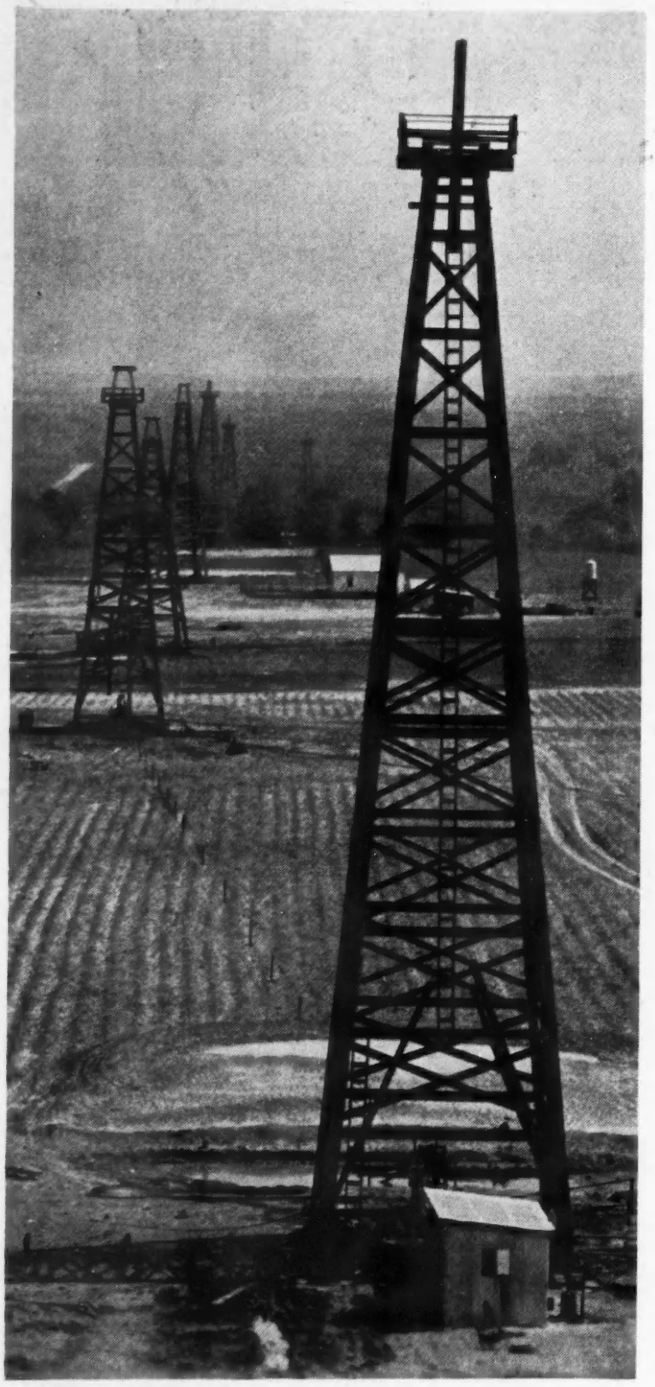


Derricks over wells producing from Austin chalk in Branyon field. In the foreground is Lincoln Petroleum Company's test which recently established Edwards lime production in the field. You are looking northeast.

varies greatly, depending on the local condition of the formation. In some wells, it is possible for acid to eat into the crevice or porous zones sufficiently to net producers ranging up to several thousand barrels per day.

For the above reason, many operators attempt to completely clean their wells before acidizing. It is their contention that if the greatest amount of resistance is removed from the formation, the effectiveness of the acid will be greatly increased. Just how accurate this theory is remains to be seen. It, however, is known that in several cases of offsets, wells drilled under one set of conditions resulted in small wells, while others were highly successful. Yet, due to the rapid change in conditions of formations, this information cannot be relied upon too closely.

It is a known fact that the Austin chalk is easily sealed by mud and water and if this formation can be kept clean, it will have greater possibility of yielding larger wells. This is the trend of drilling at this time.

Combination Methods

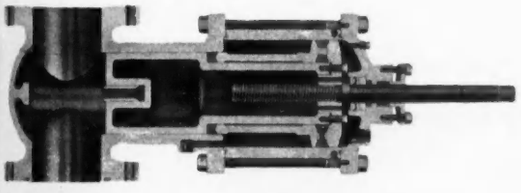
Some of the other chalk fields offer slightly different methods of production. In South Darst Creek and Zoboroski, Guadalupe County, newer areas, water is found in the lower portions of some of the chalk wells. In these areas, care is taken to drill to a point a fair distance above the water line and the usual procedure is followed in completion as in the previously described sector. One of the methods being used in drilling wells, a practice likely evolved from workover projects in other fields, is to drill to the top of the chalk with a rotary rig, set casing, then drill the full section of formation with a spudder type drilling machine. In drilling in dry, no sealing material is allowed to touch the walls of the hole. This has proved rather successful in several instances.

Value of Chalk Fractures

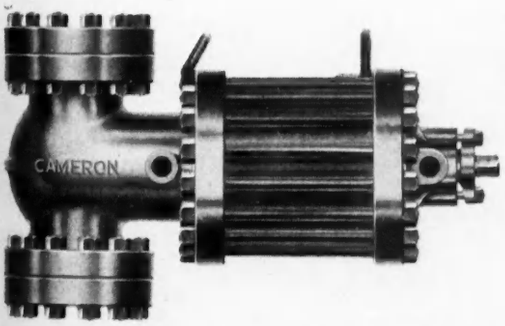
South Darst Creek field, Guadalupe County, has been given much consideration to developing sound production methods. One company has worked out the geological feature of the field to detail. As a result, its locations have been made along the definite strike line so as to cut the faulting a few feet below the top of the Austin chalk. The theory is that the saturation generally is found considerable distance into the chalk and that if the fault is cut at the point of saturation, that point will be fractured. It already is definitely known that the fractured portions of the chalk yield much more readily than the lesser porous sections of the formation.

One of the best illustrations of the success of this practice is in the completion of several wells in the southern portion of South Darst Creek field. During the earlier days of the field an outpost well was drilled into the chalk formation and made a small well. It was acidized and worked upon for several months, but production remained very low. One well nearby was later drilled into the fault plane 49 feet in the chalk and took in 96 feet of the formation. The result was that the test flowed 37 barrels per hour through small choke naturally and without any treating. Three other wells were drilled in the immediate area. One drilled into the fault plane just above the chalk, went into the formation 65 feet and set casing atop the formation. The 65-foot section of open hole

DO YOU HAVE MASTERY— OR ONLY A MASTER VALVE



When fluid pressure is applied to closing side of ram-gate operating piston, ram-gate moves swiftly across horizontal bore and seals instantly on single seat formed integrally with self-cleaning gate cavity.



Exterior view of Cameron Pressure Operated Gate Valve. Note closing and opening ports which require very simple manifold. Control is by means of a 4-way control valve. Operation is instantaneous and exceedingly positive.

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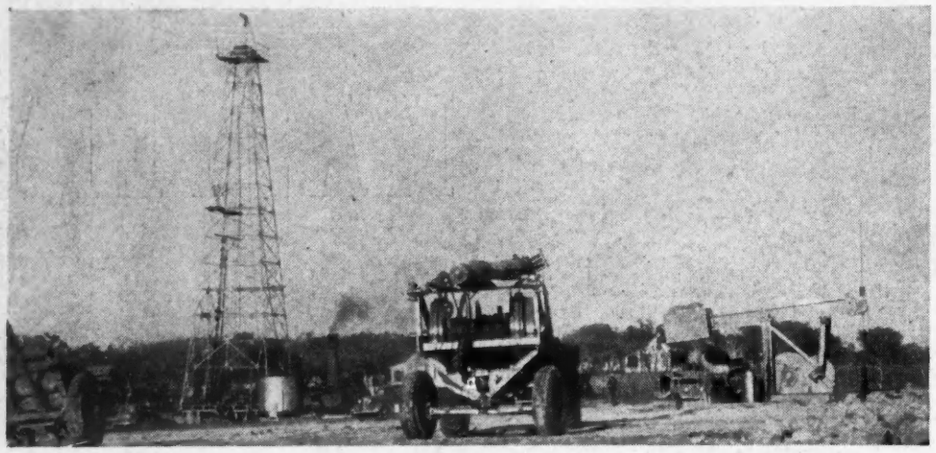


Left: Saxet Production Company lease in South Darst Creek, showing Inman 1 at the right and the Grimm well at left.

Below: Looking northwest across Branyon, showing the Blount discovery well drilled several years ago. Acidization increased its output four times.

was perforated with 72 shots of a gun perforator then acidized with 3200 gallons of acid, following which it made a comparately large well on pump. Before the shooting and acidizing, it had only a slight amount of oil.

Location Important for Shooting

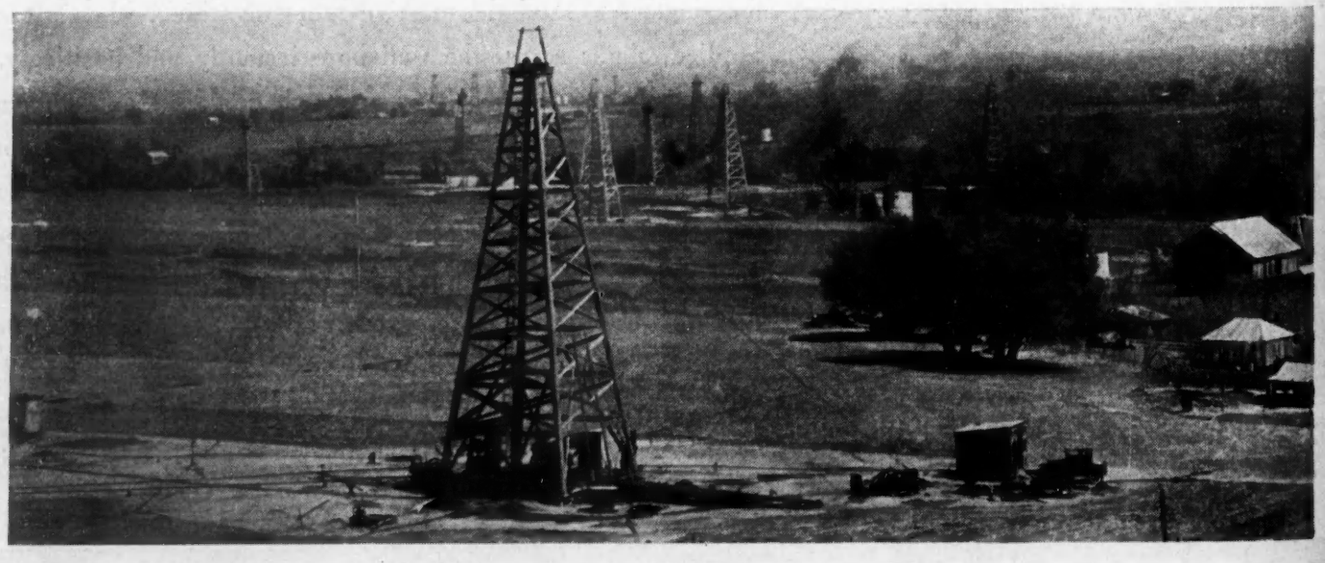
A well to be shot apparently must be rather close to the fractured zone. One test in the above group was perforated with 103 shots in the chalk, then acidized, but it resulted in only a small well. Later, however, an offset was drilled 400 feet away. When it was acidized, the solution penetrated the area between the two wells to such an extent that it first started making considerable acid. It was cleaned out and an excellent producer resulted. The suggestion was that the shots and acid had opened the formation to near the point of the fractured zone and that another acid treatment in the same well would have opened the way to a large producer.

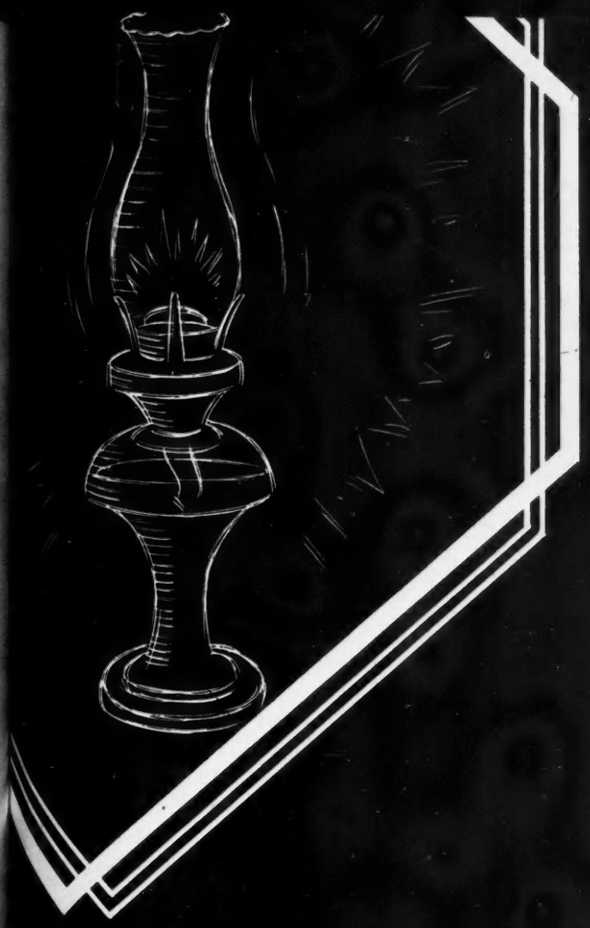
In acidizing wells it has been partly determined that treating may be repeated so long as the pressure can be maintained during the process. In some wells the acid is pumped under 600 pounds pressure at the beginning of the treatment, but as the formation is eaten away, the pressure materially declines. Subsequent treatment will respond in a similar manner until the formation becomes so eaten that it is impossible to build up pressure, thus indicating that the maximum benefit has been attained.

Applying New Technique

These experiments are being closely watched and a variety of new methods are being resorted to in an effort to bring about increased immediate recovery from these wells. In the past, due partly to economic conditions as a result of low prices, Austin chalk has not been too highly regarded as a South Texas reserve. Low production, lack of information, comparatively poor results from acid treatment, etc., were included in the reasons for lack of development in the known producing fields.

Several score of so-called crevice wells were drilled in wildcat areas, or in faulted sectors of proven fields. Some of these wells provided unusually high initial flows, one being approximately 42,000 barrels per day. These crevices were at one time more alluring to the operators, but completions were not attempted in spots where only minor saturation was found in the Austin formation. The treachery of this type of drilling soon was evidenced as offset wells were abandoned as supposedly dry holes. This wealth of information through crevice hunting as well as drilling for Edwards lime oil, below the Austin chalk,





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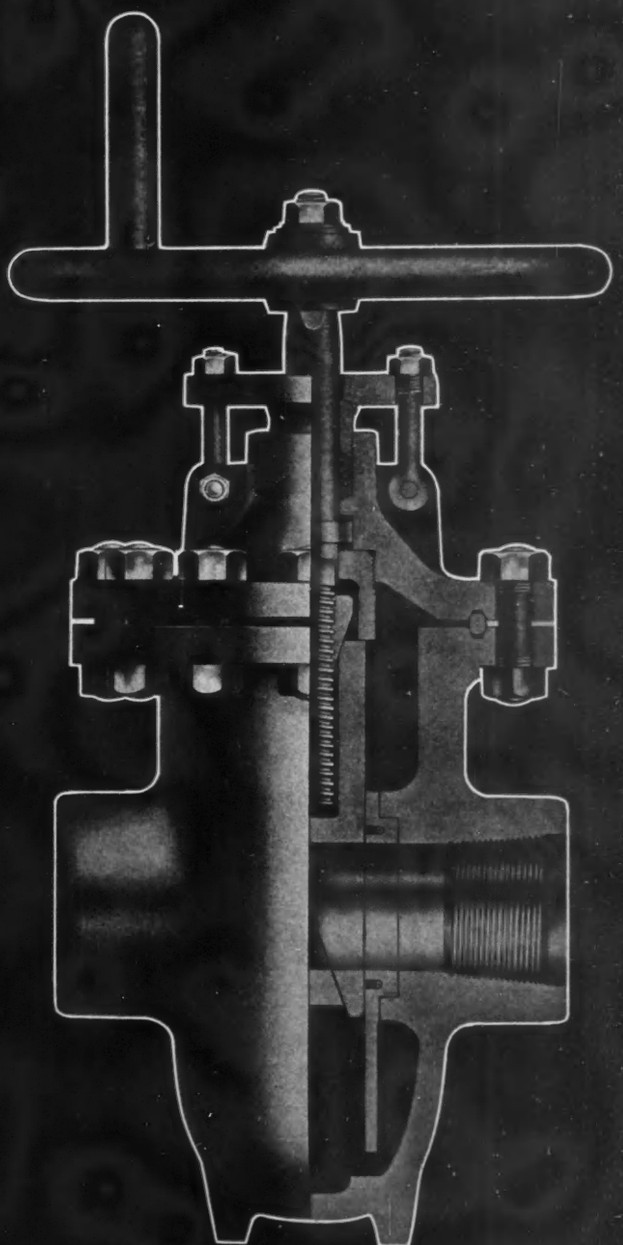

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has during the past few months been unusually valuable to those satisfied with the smaller wells.

"Home-Spun" Ideas Paying

As is evidenced, this play is attractive mainly to the smaller independent operator, who is able to give the drilling and completion personal supervision. Also, he is able to reduce the overhead through closely watching the "corners" to obtain the greatest amount of profit through the minimum income. It is in this type of development that so many "home-spun" ideas are put to use in operating, and from these frequently very important engineering advancements result.

Austin chalk is a rather unknown quantity. The only available records of possible recovery are from crevice producers and limited areas which have been productive for several years. The crevice information is, of course, distorted, as the recovery from one of these wells over a period of several days may be far greater than could be expected from another well in the same formation during its lifetime. A number of wells drilled in the earlier days of the Salt Flats field and a few of the plug back jobs in the Luling field may give a fair estimate of the potentialities of this formation, but both are more or less afterthoughts, being in sectors of the field in which the lime has become depleted of production, or in sectors wherein the lower Edwards lime is not expected to produce. Conditions in both would prevent the maximum results from this formation.

Changes In Acid Use

Acid treatment during the earlier days of the fields also may not have been as effective as today. Many of the wells were treated with acid by merely pumping the fluid into the hole and allowing it to stand for a number of days, generally three. In others only a small amount of pressure was used. The acid at times neutralized with the formation and became ineffective. In fact, the solution in many cases had a tendency to seal the formation, thus hindering, rather than improving, the production. Now, the quick treatment under heavy pressure has a much different result. Only a few wells have been acidized the second time, and immediate results have been obtained. How successful the acid work is going to be over a period of time in effecting increased ultimate recovery remains to be seen.

Uncertain About Reserves

The operators are not too certain as to the potential value of this formation from a reserve standpoint. They, however, point out that the overall section of saturation in these wells ranges from 50 to 100 feet in thickness, hence it is certain that the reserve can be calculated at several thousand barrels per acre, at least.

In calculating recoveries from these wells, spacing apparently cannot be considered from any great degree. The Dr. Butte producer, classified as the Branyon field discovery well, was completed in a fractured zone in the chalk and produced a comparatively large amount of oil over a period of about eight years. It was making about 20 barrels per day on pump until several days ago when it was given an acid treatment. The output was increased to 65 barrels per day. Offset wells drilled during the last few months came in for fairly good initial outputs, similar to those in portions of the field not subjected to drainage. These tests, ranging from 300 to 425 feet apart, seem to have no material affect on each other, indicating that the drainage area is limited to probably five acres around each well.

This type of production has an important bearing on the industry from an economic standpoint. The possibilities of production from this particular zone were well known during the period of a distressed oil market, and development costs were nominal. These reserves, however, were not developed and were hardly explored. With the rising in crude prices, smaller per acre reserves were placed on the profit side of the ledger. To add to this, continued reduction in proration allowables on flush wells increased the time required for payout on expensive deep wells. The answer to many independent operators has been shallower, less expensive wells in the areas where producers are nearly in the stripper class.

Looking northwest across Branyon field, showing Blount's producer, flow of which has been increased four times by use of acid. The well happens to be the discovery well of the field. It was drilled several years ago by J. H. Bute and The Texas Company.

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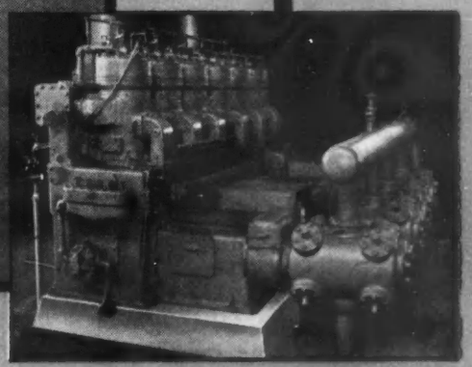

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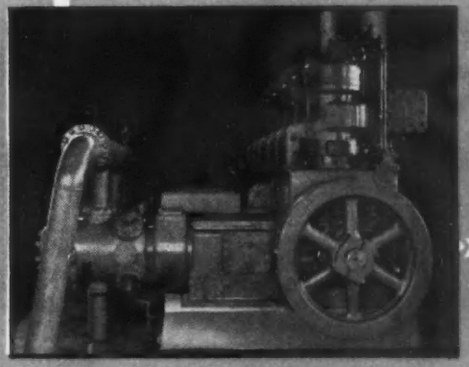

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Oriskany New West Problems

DEVELOPMENT of commercial gas production in the deep Oriskany sand in West Virginia has reached such proportions that The OIL WEEKLY is publishing two special articles on it.

The first article, which appeared in the issue of July 26, 1937, dealt with the region's geology and economic aspects.

The second article, which is presented herewith, discusses the operating problems and practices, several phases of which are new to West Virginia. Higher pressures and greater depths than formerly encountered are two important factors. The former has caused a continuous struggle against freezing. The matter of depth has not been so troublesome, but the necessity of penetrating a cavey formation in some instances has presented a major difficulty.

THE recent development of Oriskany sand gas production in southern West Virginia with greatly increased well depths and the much higher rock pressures, has resulted in various new operating problems for this locality. In so far as the increased drilling depth is concerned, there is no especial difficulty aside from the matter of the caving Devonian shales, but in some instances that has presented a major one. The increased rock pressure, and in most cases a relatively small delivery, early resulted in a more or less continuous struggle to prevent freezing not only in the surface connections but below the surface. In addition there is the matter of free gasoline which must be cared for before the gas passes to the lines of the transmission companies. These difficulties have been adjusted to a considerable extent and it is the object of this paper to explain in some detail how this has been done.

Terrain Rugged

This part of West Virginia, where Oriskany drilling operations have been active for a year or more, as well as the prospective territory to the north, east and northeast, is decidedly rugged and may well be classed as mountainous. Valleys are narrow and winding, with the hills rising steeply on each side to heights of 500 to 600 feet. Aside from the main roads, which are good but few in number, there are practically no roads other than poorly graded dirt roads following the meanderings of the valleys or of the ridges. For that reason, transportation over the wet weather roads is next to impossible, and operations are usually planned so that advantage may be taken of the summer weather. Construction of pipe lines and any work involving the movement of heavy material is confined to the summer months if possible.

Drilling Problems

To date all drilling in West Virginia, both shallow and deep, has been done by standard cable tools. In Kanawha County there have now been completed, including dry holes, approximately 100 Oriskany sand wells with perhaps 60 located or drilling.

From the surface down to the base of the Berea sand there is a continuous occurrence of sands, relatively thin shales and an average of beter than one hundred feet of the Little and Big Limes. In the northern part of the state, down the vicinity of Little Kanawha River, there is the added group of sands known as the Catskill group and including the Gordon Stray, Gordon, Fourth, Fifth, etc. So far this is ideal cable tool drilling. Then occurs the Devonian shale section. These shales are 2500 feet thick, plus or minus, in the Kanawha County area, this thickness increasing to the northeast at the rate of about 35 feet to the mile. An extension of the present field in this direction may later involve the operators in the drilling of 4000 to 5000 feet of shales.

The difficulty in drilling this Devonian shale section lies in its tendency to cave. It is highly desirable to land the production string on or in the Corniferous lime and the drilling of 2500 to 3000 feet of open caving hole to accomplish this often presents a real problem. Methods used to combat the caves include dumping cement, cement sprays, the use of aquagel in various ways, etc. Dumping cement is usually satisfactory unless the cave extends over a considerable section of the hole. In this case the tools have a tendency to lead off into the softer walls of the hole when drilling out the cement, with a crooked hole resulting. Cement sprays are usually effective when the cave is extensive vertically and not laterally. The use of commercial muds in the drilling water, or as applied to the water courses of the bit, will often prevent a cave from starting. As a last resort it is sometimes necessary to run the pipe and let it follow the tools as the drilling progresses. Another

Sand Fields Create Virginia Operating and Practices

By R. P. WALSH
General Superintendent
and
J. E. BILLINGSLEY,
Geologist,
West Virginia Gas
Corporation

method was used by West Virginia Gas Corporation in completing its J. A. Cooper well, which was an old shallow sand well deepened to the Oriskany. In this instance the wire line cut the salt water string, the water causing a cave in the shales. Five and one-half inch casing was run and cemented in and the well reached the pay after quite a struggle with caves below the pipe. Since the formation pressure in the Oriskany was 1800 pounds as compared with 700 pounds in the shale, a packer was run on three-inch tubing and set in the Corniferous lime just above the pay.

The present tendency is to drill an 8-inch hole to the top of the Corniferous lime which permits the running of 6⅝-inch O.D. casing to this point and allows plenty of room for cementing. In case difficulties are encountered in the shales, 7-inch O.D. pipe can be run and 5½-inch still set at the desired casing point in the Corniferous lime.

The question of using rotary tools for drilling the shale has been gone into at some length by various operators and some facts of importance have been developed. It is quite apparent that there will be a considerable saving of drilling time at a very considerable increase in cost. Whether the former will justify the latter, as a general proposition, is a matter of some doubt. At the present time, new open flow is being developed at a rate much greater than the market will absorb. So long at least as the shale section is no greater than 2500 to 3000 feet, there can be no object in cutting completion time from the present average 100 days with standard cable tools to say 30 or 40 days with a combination cable and rotary outfit in the face of perhaps twice the cost.

Distress gas is being dumped during the present summer months at much less than current field price so why intensify the situation by hurrying more gas to the surface at added cost. On the other hand, is this new gas not a real economic windfall which should at least to a reasonable extent be safeguarded and its use spread over a much longer period of years.

If production is developed to the north and northeast of Kanawha County, then as the shale section thickens, a rotary outfit may well fit into the picture, especially where an operator has a large amount of proven acreage and a market ready to take the gas. In other words, in this state where we know the geological column is quite uniform, it might seem better practice to wildcat and take care of ordinary drilling programs with cable tools, but in a case of many proven locations and a waiting market, to hurry the operation along by the use of rotary.

It is then apparently a question for each operator to settle in the light of his own particular situation, with the thought in mind that while rotary will decrease his drilling time, his cost will be increased, especially in the case of single wells or widely scattered wells.

Casing Methods

The usual casing program is about as follows: two or three joints of 13-inch surface conductor are run to shut off gravel and surface water; three to six hundred feet of 10-inch pipe is next set to protect the coals and to shut off fresh water; 1800 to 2000 feet of 8⅝-inch pipe is next set to shut off salt water from the salt sand and the Big Injun sand; either 6⅝-inch O.D. or 7-inch O.D. is then set on the Corniferous lime to shut off shale caves and to serve as the production string. Most operators are now running 2-inch tubing in which is installed a bottom-hole choke. The tubing also serves as a syphon string to remove gasoline.

In some instances when shallow production is expected, larger holes are started and 10-inch casing is set on the Big Lime. This permits the drilling of the Big Lime, Big Injun and Berea sands in a dry hole. Any gas encountered in these formations can be produced between the 8 and 10-inch strings.

Most operators are now cementing the 8-inch string in order to insure a water-tight job in case of wire line cuts in this string. An attempt is made to put the cement above the Salt sand since it is the big salt water producer. This is not always successful as certain of the formations will sometimes take cement and circulation cannot be obtained.

About 500 feet of cement is run around the production string with

perhaps enough special mud ahead to reach the bottom of the 8-inch pipe. Cement is not run up into the Devonian shale since this formation is a commercial producer in southwestern West Virginia and eastern Kentucky. It is hoped that upon exhaustion of the Oriskany sand gas, the inside string of casing can be recovered and small producers secured in the shale.

A typical log showing casing points is that of W. O. Ziebold's Griffith-Dixon 1, located in the Grapevine area of the Elk-Poca field, which is as follows:

Formation	Depth		Casing
Surface	0	to 7	
Red rock	7	35	13″ casing 18′-10″
Slate	35	60	
Sand	60	73	
Slate	73	90	
Sand	90	146	
Red rock	146	170	
Slate	170	225	
Sand	225	275	
Slate	275	300	
Sand	300	342	
Slate	342	350	
Sand	350	370	
Slate	370	390	
Sand	390	420	10″ casing 420′
Slate	420	450	
Sand	450	460	
Slate	460	480	
Sand	480	570	
Slate	570	600	
Sand	600	660	
Slate	660	683	
Sand	683	740	
Slate	740	860	
Salt sand	860	1090	Hole full water 990′
Slate	1090	1095	
Salt sand	1095	1367	Show gas 1120′
Slate	1367	1368	
Little Lime ...	1368	1418	
Pencil Cave ...	1418	1420	
Big Lime	1420	1580	
Big Injun sand.	1580	1630	
Slate	1630	1634	8¼″ casing 1634′
Lime	1634	1644	
Slate & shell..	1644	2023	
Brown shale ..	2023	2035	
Berea sand	2035	2040	
Slate & shell..	2040	2525	
Sand dark	2525	2566	
Slate & shell..	2566	2890	
Shale light	2890	3000	
Lime	3000	3010	
Slate gray	3010	3185	
Sandy lime	3185	3250	
Shale brown ..	3250	3310	Show gas 3300′
Sandy lime	3310	3325	
Slate & shell..	3325	3530	
Shale brown ..	3530	3565	
Shale white ...	3565	3695	
Shale brown ..	3695	3750	
Shale gray	3750	4325	
Shale dark	4325	4640	
Slate white ...	4640	4668	
Shale brown ..	4668	4714	
Lime	4714	4822	Corniferous, 7″ O.D. 4721′
Sand	4822	4836	Oriskany, Gas 4834′

This log applies to the Campbell Creek field and to the whole southern West Virginia area, except for variations in total depth. Regional dip from Ohio river is eastward and northeastward.

Oriskany drilling to the east and northeast of Kanawha County will increase in depth at the rate of about 35 feet per mile, this increase being due to the thickening of the Devonian shales in those directions. This increase will continue until near or beyond the northern part of the state. Directly north of Kanawha County the depth does not increase so rapidly. Considerable difficulty is anticipated when the operators are obliged to drill through Devonian shales of 4000 feet thickness and upwards.

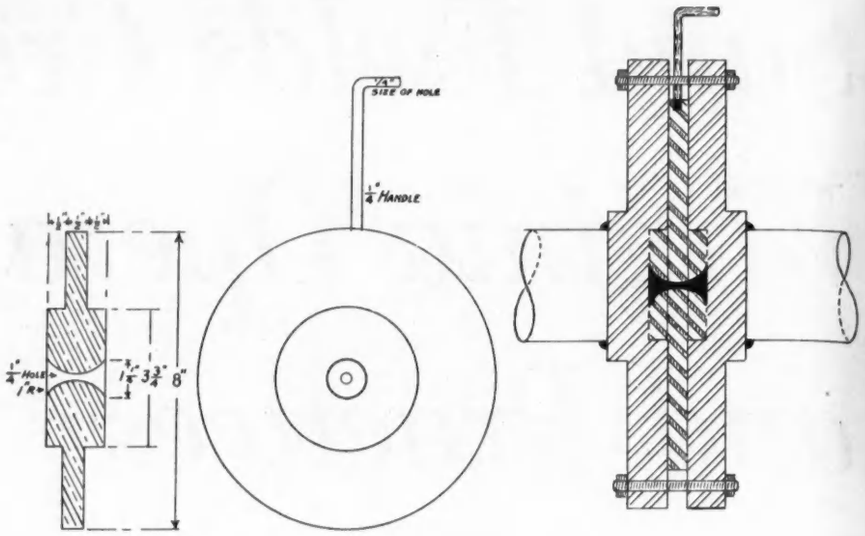

FIGURE 1

Sketch showing unusual type of restriction plate that has given good results in eliminating freezing.

Pressures

Initial well head pressures in the Grapevine area of the Elk-Poca field average about 1875 pounds, the highest reported to date being 2070 pounds. Line pressures average from 200 to 250 pounds. Since the market for gas cannot now absorb the new open flow developed, deliveries per well are restricted and most wells are operating on 1000 to 1400 pounds back pressure. Regulators, restriction plates, and chokes of various types were used to control the back pressures. Restriction plates were most popular during the past winter. Some operators used two or three plates in series, in an attempt to eliminate freezing. Figure 1 is a sketch showing an unusual type of restriction plate developed by a local machine shop, which gave good results in so far as eliminating freezing at the plate was concerned.

The installation of bottom-hole chokes has practically overcome our freezing problems of last winter.

Gas Temperatures

Bottom-hole temperatures at the Oriskany horizon when recorded in the Kanawha County area average about 120° F. Well head temperatures, when using one type or another of surface restriction equipment and operating at 1200 to 1400 pounds back pressure, average 40° to 50° F. Temperatures on the downstream side of the restriction, ran as low as minus 20° F. This low temperature coupled with a considerable quantity of free gasoline caused separators, drips and lines to freeze up frequently. West Virginia Gas Corporation was operating a standard separator 30 inches by 11 feet with inside float and pilot controls. Within 48 hours after putting this separator into service, all controls froze and the separator was found half full of snow, probably caused by the formation of hydrates. The separator worked efficiently until it froze, since no fluid was carried over into the line downstream. This fact, coupled with the short distance from well head to separator and high velocity of gas from well to separator, led to an attempt to try some method of heating the fluid in the separator rather than attempting to heat the gas before it reached the separator. The method used consisted of installing 50 feet of 1-inch copper tubing in a coil in the bottom of the separator, to which was connected an ordinary double coil domestic hot water heater. The heater was set about 100 feet from the separator and connected to the coil with 1-inch pipe. An ordinary water bottle or lubricator made of 2-inch pipe about 2 feet long was used to fill the system and also

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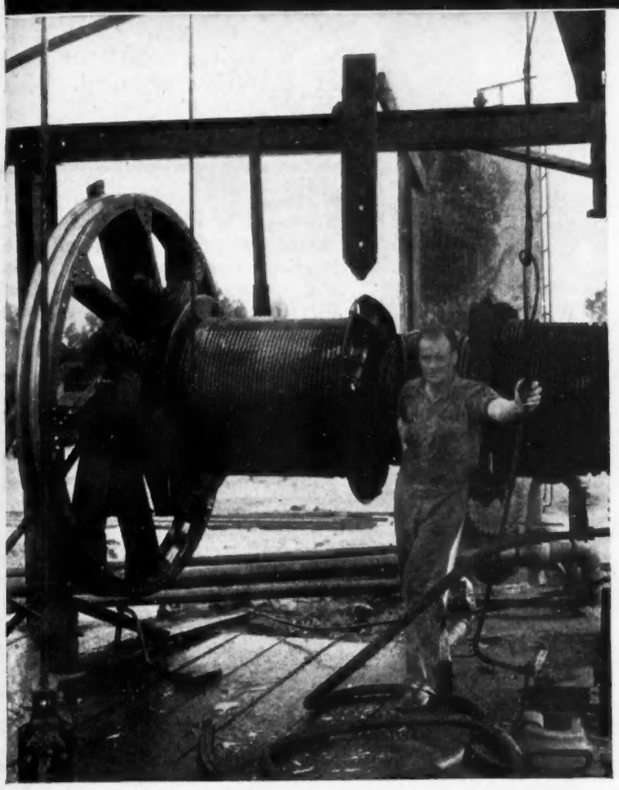

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served as an expansion chamber. A considerable drop in temperature across the heating coil was procured, and consequently some circulation of the heating fluid. The velocity of the heating fluid was very low, and while the system was not an efficient heat exchanger, it enabled operation with a minimum of expense in well maintenance and installation cost, and very little shut-down time during the past winter. Figure 2 is a close-up of a separator at W. O. Ziebold's Dixon 1, showing the effect of the heating coil. Notice that the frost line stops at the level of the liquid in the separator. The well is producing 3,000,000 feet of gas and 1500 gallons of gasoline per day, with 1400 pounds back pressure and 200 pounds line pressure.

Figure 3 is a picture of West Virginia Gas Corporation's J. A. Cooper 1, operating at 1355 pounds back pressure and 200 pounds line pressure. This well is tubed with 3-inch but has no bottom-hole choke installed as yet. Figure 4 shows a line separator used at the Cooper well. This

The principal operating problem in the Oriskany sand fields of West Virginia has been the constant struggle against freezing of both surface and sub-surface lines. This is caused by high rock pressures, and in most cases a relatively small delivery. Scenes on this page are typical views found in the district.

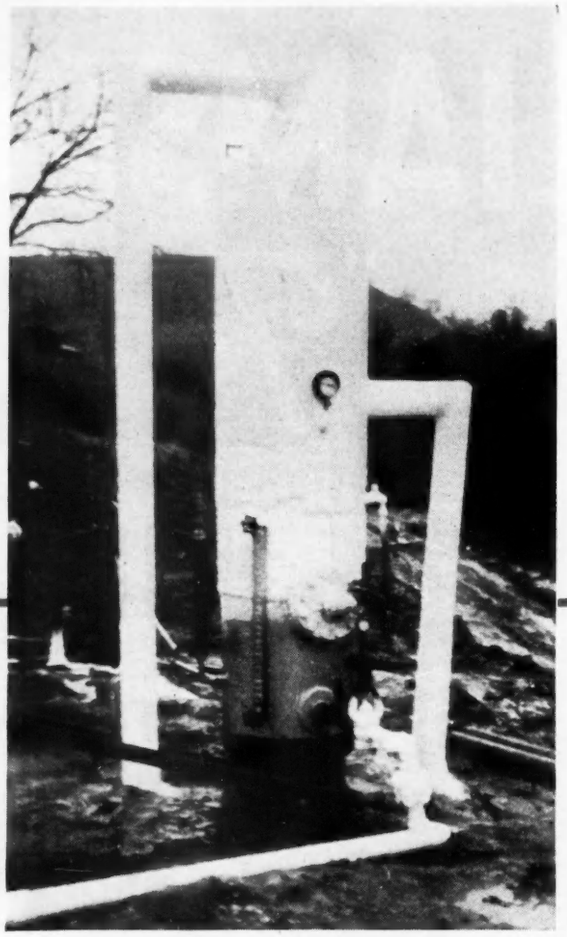


FIGURE 2

Figure 2 is a close-up of a separator on a well equipped with heating coils. Note that the frosting action stops at the level of the liquid. Figure 3 shows frost on a flow line of well operating at 1355 pounds back pressure and 360 pounds line pressure without bottom-hole choke. Figure 4 shows a heavily frosted separator, which is passing one million cubic feet of gas and 500 gallons of gasoline per day at 200 pounds line pressure.

FIGURE 3

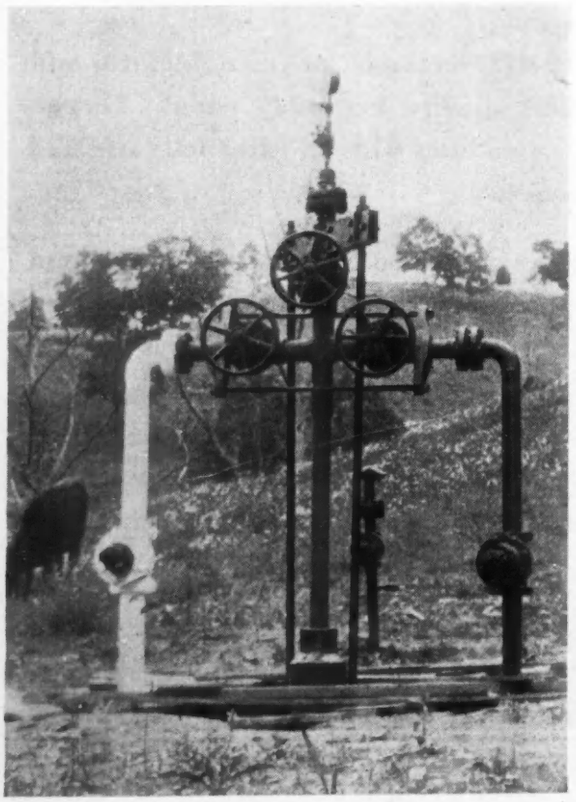
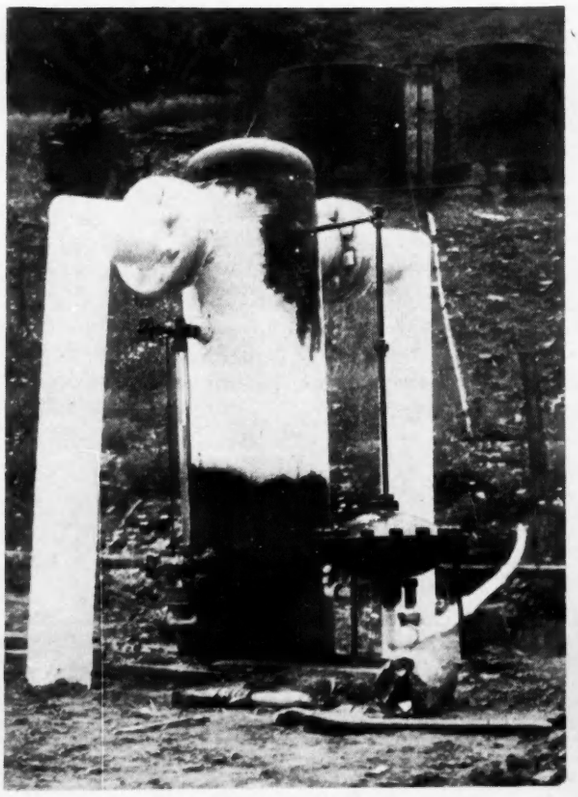


FIGURE 4



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separator is about 500 feet from the well and is passing 1,000,000 cubic feet of gas and 500 gallons of gasoline per day at 200 pounds. The temperature of the fluid in the separator is 12° F.

In contrast to the illustrations cited above, Figure 5 is presented to show the effect of tubing and the installation of a bottom-hole choke. It is a picture at the same well at which the separator shown in Figure 2 is located after tubing and running a bottom-hole choke. The heater has been removed and there is no ice present on the separator or any of the well connections.

Apparently the installation of bottom-hole chokes will eliminate most freezing problems. The well head temperatures of gas in the tubing when using such a choke averages from 50° to 60° F. No trouble is experienced with the operation of lines, drips or separators when such a temperature is maintained. One objection to the use of a bottom-hole choke is that the higher flowing temperature reduces the amount of free gasoline that can be recovered by the separators or drips.

Figure 6 illustrates a well hook-up used by West Virginia Gas Corporation on its Walker 1, located in the Aarons Fork area of Elk-Poca. It is designed to permit the mixing of warm gas flowing from the tubing, with cooler gas from the casing head, through a tee type choke used as a mixing valve.

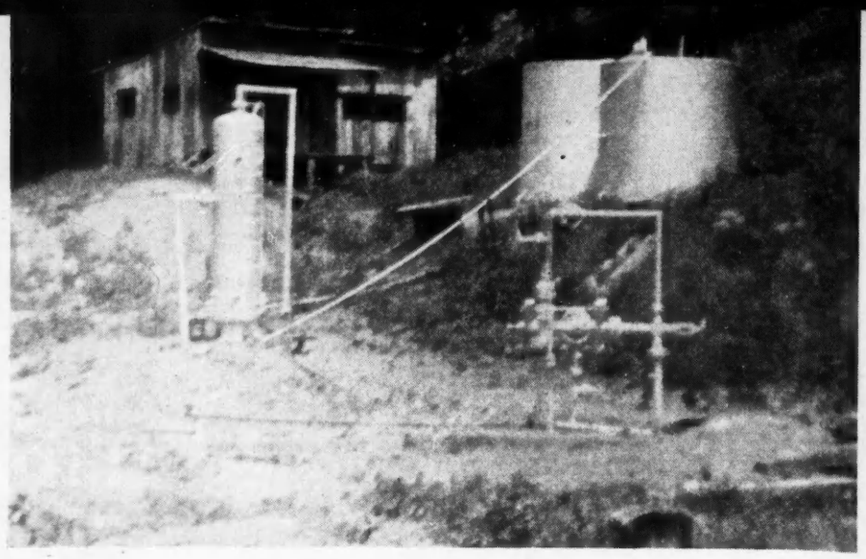


FIGURE 5

The effect of tubing and installation of a bottom-hole choke is shown here. Notice that the separator, which is the same one shown in Figure 2, is not coated with frost here.

Gas Analyses and Free Gasoline

Interesting facts are brought out by the analyses of Oriskany sand gas samples from various wells and localities. Two of these, given below as in general typical of the area, are from wells of the West Virginia Gas Corporation, and are located in the Elk-Poca field.

	D. A. Griffith	J. A. Cooper
Methane	85.60	84.29
Ethane	7.16	8.50
Propane	2.28	2.80
Iso-butane	.36	.41
N-butane	.86	1.00
Iso-pentane	.17	.33
N-pentane	.35	.29
Diisopropyl	.00	.00
Dimethylpropylmethane	.17	.21
N-hexane	.14	.15
Iso-heptane	.06	.05
N-heptane	.07	.08
Octanes	.18	.09
Nitrogen	2.60	1.80
Carbon dioxide	.00	.00
Btu (det. 30"Hg 60°F.)	1135	1169
Sp. Gr. (det. Air = 1)	.671	.685
Date sampled	8-20-36	

It will be noted that in these two samples, as in the entire group of samples from this field, all taken and tested by the West Virginia Geological Survey, the carbon dioxide content is zero. This contrasts with approximately four percent in samples tested from the Campbell Creek field and seems to indicate that there is no connection between the two fields. At the present time several wells are being drilled south of Elk-Poca and north of Campbell Creek, and it will be interesting to follow these operations.

When these tests were made by Doctor Headlee of the State Survey, he advised that the calculated free gasoline content of the gases would figure considerably lower than the actual yield, at least during the time of relatively high rock pressures. The amount of free gasoline is calculated from the Isopentane figure to the Octanes figure, inclusive. Basing the calculation on the fact that 30 cubic feet of gasoline vapor is equivalent to one gallon of free gasoline, the answer is just about 400 gallons per million cubic feet. At the present time, with closed pressures running around 1700 pounds and line pressures averaging around 200 pounds, the wells are yielding close to 500 gallons per million cubic feet of gas passed through the separators.

From November 1936 to May 1937, inclusive, the D. A. Griffith well produced 266,000 gallons of free gasoline from a gas delivery of roughly 500,000,000 cubic feet. This is an average yield over the period of 532 gallons per million cubic feet of gas delivered. The Cooper well over the same period averaged on greatly restricted deliveries about 408 gallons per million cubic feet. This difference in yield may be partially explained by the fact that the gas is from different pays in the sand. The Griffith well was drilled only a few feet after the pay was picked up, while the Cooper well was drilled through the first pay showing less than 200,000 cubic feet, through a barren streak of some six or seven feet and on through a second pay from which the major part of its 4,000,000 cubic feet of open flow is produced. This may also account for other of the differences in the two analyses, as in the nitrogen content, for example.

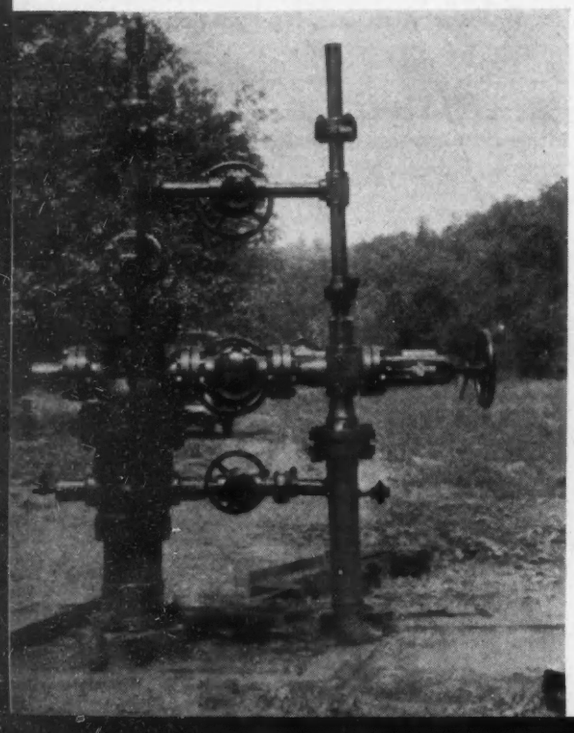


FIGURE 6

Well hook-up at West Virginia Gas Corporation's Walker 1, in the Aarons Fork area of the Elk-Poca field.

MEN IN THE INDUSTRY'S NEWS

H. C. VANDERPOOL, former geologist for Champlin Refining Company, Enid, Oklahoma, has been named chief geologist for Barnett Petroleum Corporation, Dallas. He succeeds Joseph A. Kornfeld, who has resigned to become oil editor of the Wichita Beacon, Wichita, Kansas. Vanderpool is a graduate of the University of Oklahoma.

HOWARD M. JOHNSON was recently appointed scout for the Enid-Perry-Guthrie district of Sun Oil Company of Tulsa. He is the son of Harry M. Johnson, head of the land department for the company in Kansas. Young Johnson starts the third generation to be employed by Sun Oil Company.

H. D. HUSKEY, Kirkuk, Iraq, in charge of drilling operations for Iraq Petroleum Company, Ltd., is spending his vacation in California. He is accompanied by his wife. During late July and early August they will tour the Pacific Northwest and depart for Iraq some time in September.

F. A. GABY, vice president of British American Oil Company, Ltd., Toronto, was in Calgary, Alberta, last week on an inspection tour of the company's interests in the Turner Valley field.

W. S. FARISH, who recently succeeded Walter C. Teagle as president of Standard Oil Company of New Jersey, sailed for Europe July 24 for an inspection trip of the company's foreign properties. He will visit Denmark, Norway, Sweden, Great Britain, France and Germany.

HARRY E. CRUM, geologist with Columbia Carbon Company, New York, stopped in Wichita, Kansas, last week while enroute to Colorado with his family for a vacation, to visit his former partner, Everett Bradley, geologist-operator.

TOM WRIGHT has been transferred from Ada, Oklahoma, to Wichita to serve as scout on the Kansas geological staff of the Stanolind Oil & Gas Company. He was a member of the company's engineering staff while in Oklahoma.

R. V. LeSUEUR, vice president of Imperial Oil Company, Ltd., Toronto, was a visitor in Calgary, Alberta, last week. While there he visited the Turner Valley field and other properties of the company in Alberta.

G. C. NICKLOW, Gladewater district superintendent, East Texas division, for Humble Oil & Refining Company, will be transferred to the Gulf Coast division as superintendent of the Tomball district.

AL WINZELER, a member of the geological staff of Stanolind Oil & Gas Company with headquarters in Wichita, Kansas, is to leave this week for a vacation in New York and New England.

PHIL COCHRAN, district geologist for Carter Oil Company with headquarters in Wichita, Kansas, is vacationing in Colorado.

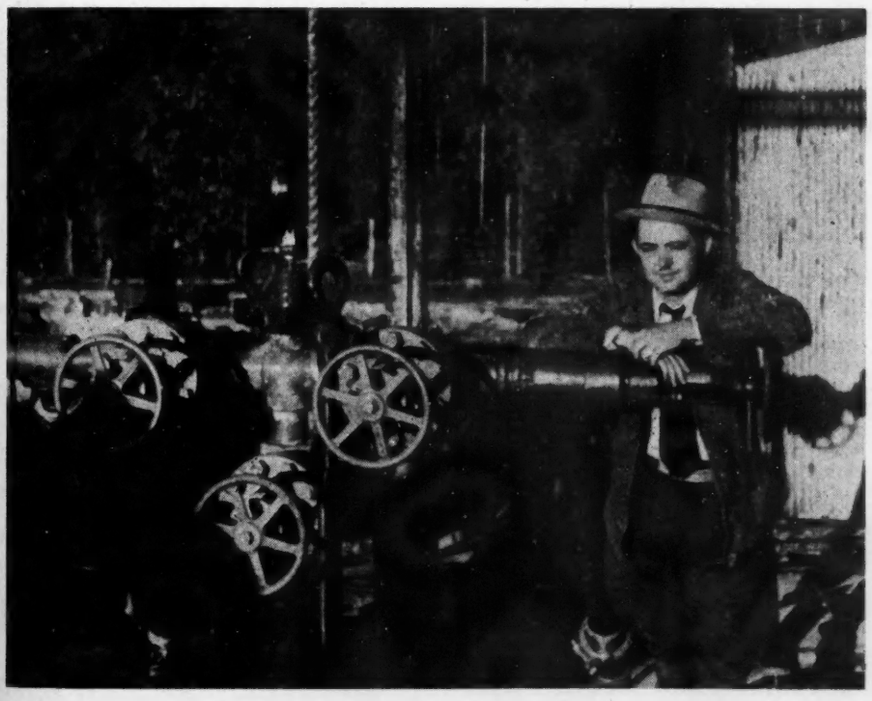
J. A. BEYHAN, general superintendent of Cosden Pipe Line Company with headquarters in Tulsa; J. E. Linehan, district superintendent; S. I. Ford, district superintendent; W. C. Wren, district foreman, and Luther Williams, house organ editor for Mid-Continent Oil Company, made a tour of Cosden's entire south-central Oklahoma system last week.

HENRY NETHING, production superintendent in Kansas for Stanolind Oil & Gas Company, has returned to his Ellinwood office following a vacation at Galveston and other Texas points.

E. J. NICKLOS, president of E. J. Nicklos Drilling Company, and son, Gordon, left Houston July 27 for Montreal. They sail on the Empress of Britain from Quebec on July 31, going to Europe for the summer.

J. W. WINFREY, district petroleum engineer of Humble Oil & Refining Company in the Amelia district, was transferred to the Thompsons district in the same capacity.

T. G. ROACH, district superintendent at Tomball for Humble Oil & Refining Company, will be transferred to the West



Illinois has become an important operating division for The Pure Oil Company, which has opened two new fields there so far this year. The company owns several hundred thousands of acres in the state. The company's Illinois operations attained a new peak upon completion of Bunyan Travis 1, in the Clay City field. The well came in for 3000 barrels, one of the largest wells ever completed in the state.

Above is C. M. Harden, division superintendent in Illinois for The Pure Oil Company, with a handful of oil from Travis 1. To the left is R. W. McIlvain, Jr., general manager of Pure's Illinois producing division, fondling the Christmas Tree on Travis 1.

—Photos courtesy Charles Ward, Editor, Pure Oil News.

Texas division as district superintendent of Hurdle district.

J. P. RUCKMAN, district superintendent for Humble Oil & Refining Company, West Texas division, will be transferred to the East Texas division as district superintendent of the Gladewater district.

ARNO BEHNKE, assistant to the production superintendent of the Fort Worth division of Amerada Petroleum Corporation, spent the latter part of July vacationing in Michigan.

C. M. JOHNSON, secretary-treasurer of American Liberty Oil Company, Dallas, departed last week for a vacation in Colorado.

W. G. CHRISTIAN has been named by the Texas Railroad Commission to succeed E. N. Stanley as chief conservation law enforcement officer in the East Texas oil field. Christian has had wide experience in this work, which he handled at various times while Captain Stanley was engaged in proration matters for the commission in other parts of the state. Christian was instructed to take over the administration of this work on Monday, July 26.

T. R. CHENNAULT, assistant district chief clerk for Humble Oil & Refining Company Anahuac district, was promoted to district chief clerk of the Tomball district.

C. E. CAPERS, district chief clerk for Humble Oil & Refining Company Roanoke district, was promoted to assistant division chief clerk of the Gulf Coast division, replacing E. E. Magill.

E. E. MAGILL, Humble Oil & Refining Company assistant division chief clerk of the Gulf Coast division, was promoted to division chief clerk of the same division, replacing H. Ormston.

H. ORMSTON, Humble Oil & Refining Company division chief clerk of the Gulf Coast division, was promoted to assistant chief clerk of the production operating department in Houston.

PAUL L. McGEE, district petroleum engineer of Humble Oil & Refining Company in the Thompsons district, was transferred to the Amelia district in the same capacity.

DIED:

C. W. ECKLES, superintendent of construction, Union Oil Company of California, died July 26 at the Good Samaritan Hospital, Los Angeles; closing an interesting and colorful career in the oil industry. A man of energy, Eckles was here, there, and everywhere in the Southern California fields. One minute directing the laying of a foundation for a new well, the next tearing off to some distant location to supervise the laying of a pipe line, or the construction of a pump station, he never seemed to know a minute of inactivity. He had directed construction work for Union Oil Company in almost every phase of its diversified operations, not only in this, but also in foreign countries. When Bellview Oil Syndicate's spectacular well fire was raging at Santa Fe Springs in November, 1928, Eckles was borrowed from Union Oil Company to take charge of the fire fighters. Under his direction workmen in asbestos suits were sprayed with water, and further protected by wind machines, while they tried strenuously to bring the blaze under control. Tunnels were dug underground to the casing, which it was planned to perforate in order to release the pressure. This, however, was found unnecessary, as the crew of fire fighters finally succeeded in capping the well, extinguishing the blaze, and bringing the whole project under control. Eckles was 58 years of age at his death, and had been with Union Oil Company since March, 1922.

When Mammoth Producing & Refining Corporation completed Wood 1 to make an important northwest extension to the Buckeye field of Gladwin County, Michigan, these three farm bosses were on the job. From left to right they are: O. G. Hamet, Frank Ingram and Amos Border, shown at the control head of the well, which produced 260 barrels daily after being acidized. Eight hundred are believed to have been proven by the well.

BEN F. MUN, aged 35 years, well known in independent oil producing circles in California, was killed in an air liner crash near Brussels July 28. Two other Americans were killed in the same crash. Mun started in the oil tool supply business when 19 years of age and started in the producing business at Long Beach years ago, and headed several companies, two of which are Magnolia Petroleum Company and Humble Oil Company, neither of which have any connection with the companies of the same name operating in the Mid-Continent. He is survived by his wife, who was visiting at Salt Lake City, and his father, residing in Oklahoma.

LOUIS BLAUSTEIN, who retired last year as president of the American Oil Company which he founded in 1910, died July 27 in Atlantic City, New Jersey, where he was vacationing, following a cerebral hemorrhage attack. Blaustein, who was 78, made his home in Baltimore. He was also an official of Pan-American Oil Company, Pan-American Petroleum & Transport Company, Pan-American Refining Company, Pan-American Pipeline Company, Pan-American Crude Oil Products Company, Mexican Petroleum Corporation, and Lord Baltimore Filling Stations, Inc.

J. KIRBY WARREN, 36, head of the land department of Ohio Oil Company, Tulsa, was found dead in his apartment here early July 26. Physicians attributed death to heart failure. Warren had been an employe of the company since 1925, coming here from Oklahoma City. Special services were held at Tulsa but interment was at Texarkana on July 28.

Allowables

[*Continued from Page 11*]

wide order was issued, and August 1. The allowable is probably very near 1,515,900 barrels.

The other adjustment was for the New Saxet Frio and Plymouth fields, allowing operators in those two fields to produce an amount during July equal to the amount they will be allowed to produce during August.

That is, the order was retroactive to July 1 and gave Plymouth producers 110 barrels per day and Saxet producers 100 barrels per day, the same as their August 1 allowables. In terms of overall barrels, it was an increase of 2612 barrels daily for Plymouth for the entire month of July, and 3074 barrels for Saxet, or a total of 5686 barrels for the two fields.

Texas Refinery Stocks Low?

The Texas Railroad Commission issued its notice last week for the statewide hearing for August 19, and at the same time asked for information concerning refinery needs.

This is a field not heretofore entered by the commission, which has confined its market demand inquiries to purchasers' needs.

Apparently, the move reflects a belief in the mind of Railroad Commissioner Ernest O. Thompson that refineries' working stocks may be too low, which conclusion perhaps was drawn from the recent United States Bureau of Mines storage survey. Thompson explained that he does not think a set figure can be fixed which will fit all refineries; that is, he believes that some refineries, because of their distance from the source of supply, need as much as 90 days working stocks, while others nearer the supply may need only 60 or 30 days.

In any event, the commission asked all refineries using Texas crude, regardless of whether they are located in the State of Texas, to submit data concerning their particular and individual needs together with data upon their current supplies.

If the evidence supports what the commission believes to be true—that is, that working stocks may be somewhat low—it would serve as a basis for further adjustments of the Texas allowable.

Fear New Allowables

TOO MUCH OIL IN PROSPECT HAS DISTURBING INFLUENCE

DESPITE a new high mark in crude output and prospects of still larger production under increased allowables in August, all markets are firm, two reductions in crude postings being purely local. Motor fuel is feeling the effect of continued high consumption and showing strength that momentarily may lead to higher quotations by the refiners.

Stocks in Good Shape

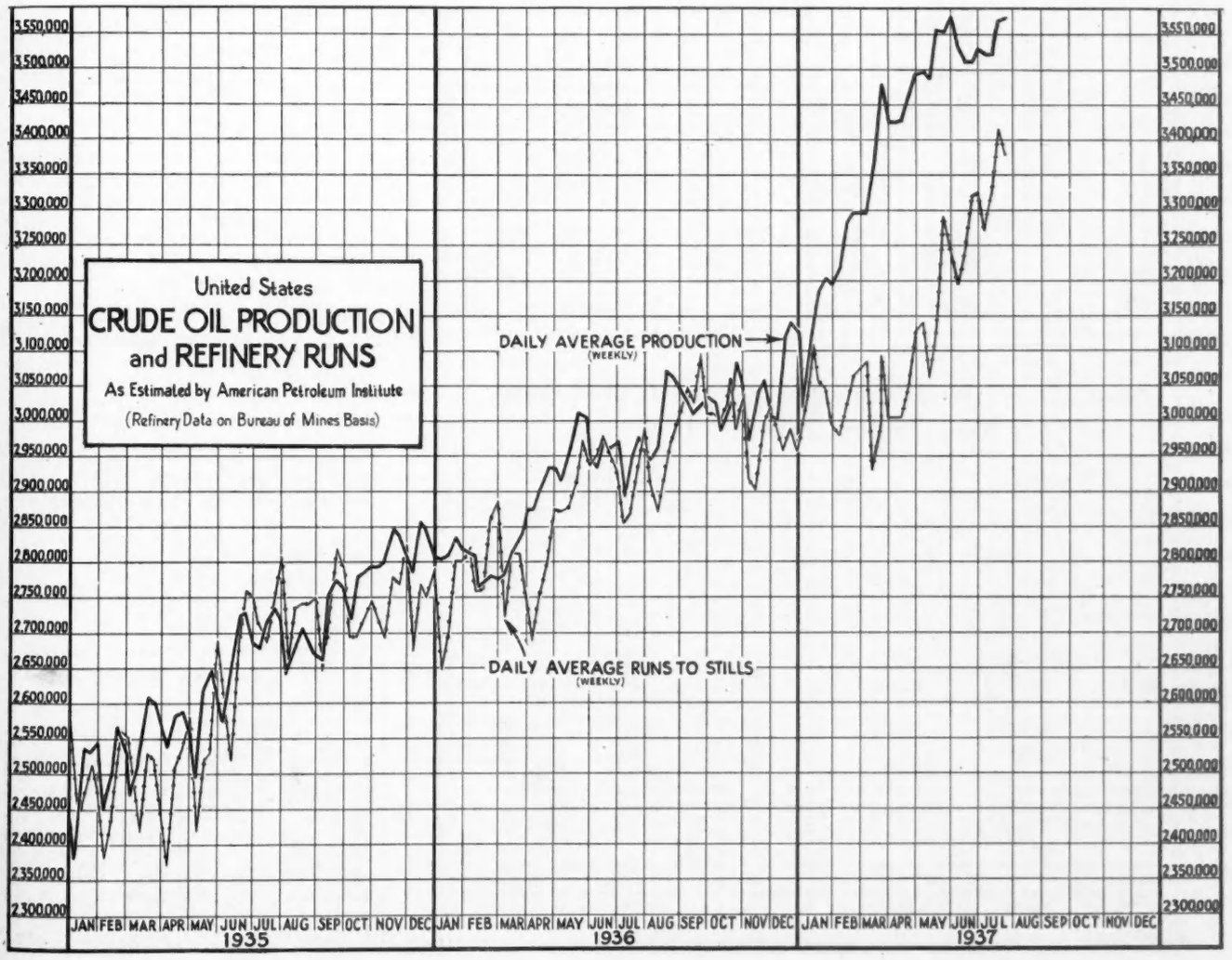
Latest comparable figures on production and stocks are for the week ending July 24, when the American Petroleum Institute's compilation shows a record crude production of 3,576,400 barrels daily, a slight drop in crude runs by refineries to an average of 3,380,000 barrels daily, and a drop of 526,000 barrels in gasoline stocks to 72,020,000 barrels. Fuel oil stocks increased normally during the week to 106,260,000 barrels. The latter figure is lower than for the same period last year when the summer accumulation was not sufficient to avoid scare of a scarcity during the winter, and the stock accumulation is slow despite reluctance of refiners to sell burning oils at this time. The government report on crude stocks for the week ended July 17 showed a drop of 116,000 barrels to 307,139,000 barrels.

These figures are all encouraging, but both purchasers and producers of crude oil are fearful of further increases in current crude supply. All parties are enjoying a reasonable prosperity with which they are satisfied, and increases in allowables by the several states has been at the instigation of public officials rather than any great urge from either sellers or buyers of crude. Whether the officials' object is what they term discriminations or they have visions of more revenue is a matter of their own counsel. But that the price will not hold against too much oil is substantially proven by the cut in Michigan, and an isolated reduction in Kansas.

Michigan Price Cut

A 15-cent cut in Porter and Buckeye grade crudes, representing 90 percent of all crude produced in Michigan, made effective July 24, while not unexpected constituted the major news for the week in the industry. The drop was posted by Pure Transportation Company and followed immediately by Simrall Pipe Line and Leonard-McClanahan Pipe Line, the other two major carriers.

The new prices are $1.27 for Porter



and equal grades and $1.24½ for Buckeye and equal grades. Ogemaw and Arenac prices also came down 12 cents per barrel to $1.09, although the cut in these two areas was not as significant.

Porter grade crude was pegged at $1.42 on January 29 this year, and the biggest talk for a stiff prorate in the new Buckeye area (opened in January) was to keep the price up. In March all carriers dropped Buckeye to $1.39½ cents where it was held until last week.

Michigan is now producing about 43,000 barrels daily. Buckeye field alone has a rated potential of 115,000 barrels; the state total is about 150,000 barrels. All carriers have reported both intra-state and interstate markets as saturated as far as Michigan is concerned for the present.

CRUDE OIL PRICES

Complete table of prices paid for crude oil at the well in principal fields will be found on page 50. Hereafter this schedule will appear only in the first issue of each month.

Weekly Trends of United States Production and Stocks

(Figures American Petroleum Institute, except Crude Stocks, Bureau of Mines)

WEED ENDED	Crude Oil Production (Barrels Daily)	Crude Runs to Stills (Barrels Daily)	Crude Oil Stocks (Barrels)	Gasoline Stocks (Barrels)	Gas & Fuel Oil Stocks (Barrels)
January 2, 1937	3,121,400	3,030,000	287,659,000	62,661,000	106,330,000
January 9	3,117,800	3,110,000	286,912,000	65,402,000	105,971,000
January 16	3,184,650	3,045,000	286,044,000	66,559,000	104,841,000
January 23	3,205,150	3,055,000	285,211,000	68,180,000	103,441,000
January 30	3,194,050	2,995,000	285,384,000	69,540,000	102,078,000
February 6	3,220,750	2,980,000	286,116,000	70,535,000	101,136,000
February 13	3,286,050	3,020,000	286,158,000	73,585,000	100,735,000
February 20	3,295,950	3,065,000	287,574,000	74,798,000	99,391,000
February 27	3,296,100	3,085,000	288,121,000	78,786,000	99,534,000
March 6	3,298,800	2,930,000	289,611,000	80,102,000	99,115,000
March 13	3,372,850	2,985,000	290,613,000	81,236,000	98,964,000
March 20	3,448,150	3,095,000	291,555,000	81,623,000	97,287,000
March 27	3,431,300	3,060,000	293,587,000	*83,538,000	96,591,000
April 3	3,422,350	3,005,000	297,374,000	83,157,000	95,805,000
April 10	3,426,300	3,005,000	297,468,000	82,579,000	94,581,000
April 17	3,463,550	3,055,000	298,932,000	82,703,000	94,472,000
April 24	3,496,400	3,125,000	300,737,000	82,303,000	94,100,000
May 1	3,497,450	3,140,000	303,249,000	81,407,000	94,291,000
May 8	3,489,200	3,065,000	304,148,000	81,469,000	94,874,000
May 15	3,551,950	3,135,000	305,365,000	80,378,000	95,316,000
May 22	3,550,450	3,290,000	304,971,000	79,827,000	95,111,000
May 29	3,573,000	3,245,000	306,445,000	78,758,000	96,139,000
June 5	3,538,150	3,195,000	307,223,000	77,494,000	97,402,000
June 12	3,515,900	3,250,000	307,199,000	76,996,000	98,158,000
June 19	3,510,950	3,320,000	307,465,000	76,574,000	99,215,000
June 26	3,529,600	3,235,000	307,679,000	75,427,000	100,395,000
July 3	3,525,650	3,270,000	308,744,000	75,330,000	101,564,000
July 10	3,520,750	3,325,000	307,255,000	73,976,000	103,537,000
July 17	3,557,950	*3,415,000	307,139,000	72,546,000	105,085,000
July 24, 1937	*3,576,400	3,380,000	.....	72,020,000	106,260,000
July 25, 1936	2,952,000	2,990,000	.....	63,599,000	107,813,000

*All time peak.

Summary of Wells Completed in the United States Week Ending July 31, 1937

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total 1937	Total this Date, 1936
Alabama	.....	.....	.....	.....	.....	1	2
Arkansas	3	2	.....	1	135	51	57
California	38	33	.....	5	15,200	828	655
Colorado	.....	.....	.....	.....	.....	6	6
Florida	.....	.....	.....	.....	.....	.....	2
Illinois	.....	.....	.....	.....	.....	85	4
Indiana	.....	.....	.....	.....	.....	70	133
Kansas	49	40	2	7	41,309	1,498	945
Kentucky	6	4	1	1	48	197	158
Louisiana	8	5	.....	3	2,362	486	605
Michigan	23	16	2	5	6,990	531	448
Mississippi	.....	.....	.....	.....	.....	6	5
Montana	.....	.....	.....	.....	.....	97	83
Nebraska	.....	.....	.....	.....	.....	.....	.....
New Mexico	11	10	.....	1	9,787	412	329
New York	.....	.....	.....	.....	.....	6	.....
Ohio	28	12	9	7	378	837	1,114
Oklahoma	74	56	2	16	44,580	1,894	1,708
Pennsylvania	5	1	4	.....	6	108	.....
Texas	327	247	7	73	387,557	8,793	7,238
Utah	.....	.....	.....	.....	.....	.....	.....
West Virginia	20	4	11	5	48	518	385
Wyoming	.....	.....	.....	.....	.....	59	39
Total this week	592	430	38	124	508,400	16,483	13,916
Total last week	646	454	54	138	509,634	.....	.....
Total this year	16,483	11,429	1,319	3,735	13,851,999	.....	.....

Several deals are pending which if successful would open about 20,000 barrels market to Michigan in the Toledo and Chicago refinery areas. However, these markets, now chiefly supplied by Mid-Continent, have been shying clear of Michigan due to past experiences when the supply was found up and down and not stable enough to merit long-term contracts.

Only one pipe line (Michigan-Toledo jointly owned by Standard of Ohio and Simrall of Mt. Pleasant) gives Michigan a Toledo direct outlet and it is limited to about 22,000 barrels daily. Railroad shipments are claimed prohibitive in competition with Mid-Continent deliveries. Pure Transportation Company uses lake tankers for most of its deliveries.

Effective August 1, Stanolind Crude Oil Purchasing Company has announced that it will pay 13 cents below the posted price for crude it purchases in the Otis and Albert pools of Rush and Barton counties, Kansas. This affects about 600 barrels daily production that the company gathers, loads in tank cars and moves to a pipe line point, and the reduction is to offset the expense of that procedure. But more significant is the statement by a company official that "Being forced to store oil because its production has been maintained by the various states in the Mid-Continent area at a rate in excess of the consumptive demand, we are unable to continue purchasing this oil at our regularKansas prices."

Many refiners in the Mid-Continent area are sold up and behind on shipments of gasoline, and while the price had not changed, no bargains were available. Kerosene also was not offered freely and the disposition to hold on to fuel oils continues, while heavy fuel is moving in nice volume.

Amarillo, Texas.—Shamrock Oil & Gas Corporation has placed in operation a new Dubbs cracking unit, located in the Sunray-Dumas field, Moore County, and adjacent to its large natural gasoline manufacturing plant on the McKee tract. Approximately 1300 barrels of high gravity crude produced in the field is being processed daily by the cracking unit, and about 600 barrels of topped crude delivered by tank cars from a skimming plant in Gray County section of the Panhandle.

Comparison of Permits Granted for New Wells

STATE	Week Ending July 31	Total this Mo.	Total this Year	Total this Date Last Year	1936 Year Total
Arkansas	8	32	128	55	103
California	48	150	1,922	603	1,054
Louisiana	23	104	704	672	1,107
Kansas	41	293	1,590	1,041	1,873
Michigan	29	93	586	434	762
Oklahoma	56	280	1,756	1,745	2,594
Texas	236	1,679	10,644	8,870	15,582
Total	441	2,631	16,330	13,420	23,075

Output Declines

3,569,685 BARRELS PRODUCED DAILY IN THE UNITED STATES

DECLINES in Oklahoma and California, which states were largely responsible for the establishing of a new high peak the preceding week, offset slight advances in production in other states last week, and the total average daily output of the United States dropped 17,090 barrels during the week ended July 31. The nation averaged 3,569,685 barrels per day, which compares with its output of 3,586,775 barrels in the preceding seven-day period. However, the lower output was not sufficient to bring production anywhere near the Bureau of Mines recommended recovery. The latter estimated that 3,423,800 barrels would be required, or a figure 145,885 barrels below actual production.

California Is Down

Production in California last week averaged 665,000 barrels daily, as compared with 672,000 barrels a week ago. This decline of 7000 barrels was the largest registered in the nation, but still left the state producing 59,500 barrels more than the Bureau of Mines recommended. The California decrease was well divided among several fields, and offset gains in a few.

Oklahoma showed the second largest drop, when it fell 5775 barrels to a daily average of 631,500 barrels, which was practically even with the Bureau of Mines suggested output of 629,700 barrels. Decreased output from minor fields, and a few of the larger ones, offset gains in other areas.

Texas recovered an average of 1,431,350 barrels daily last week, which was up 1650 barrels. Its output, therefore, continued to be far in excess of the Bureau of Mines recommended recovery, exceeding the latter last week by 56,250 barrels. For the most part the various districts of the state remained on a level with their output a week ago, minor increases in practically every one accounting for the higher output.

Kansas, in producing 207,125 barrels daily, was up 2675 barrels. Other regions were practically unchanged.

United States Crude Oil Production
Estimates Compiled by The OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Recommendation (Daily in July)	ACTUAL PRODUCTION: BARRELS DAILY FOR WEEK ENDING July 31	July 24
TEXAS—			
Texas Panhandle	.....	79,300	78,650
North Texas	.....	73,250	73,200
West Central Texas	.....	33,900	33,850
West Texas	.....	203,750	200,650
East Central Texas	.....	126,100	126,000
East Texas Field	.....	475,700	475,400
South Texas	.....	235,100	237,800
Texas Gulf Coast	.....	204,250	204,150
Total Texas	1,375,100	1,431,350	1,429,700
OKLAHOMA—			
Oklahoma City	.....	153,750	151,725
Seminole Area	.....	118,900	103,700
Crescent	.....	8,475	6,775
Lucien	.....	15,425	16,075
Fitts	.....	97,500	100,425
Edmund	.....	18,750	18,450
Moore	.....	11,125	10,900
Others	.....	207,575	229,225
Total Oklahoma	629,700	631,500	637,275
KANSAS—			
Ritz-Canton	.....	5,725	5,700
Chase	.....	8,025	8,650
Hollow-Nikkel	.....	2,950	2,975
Sedgwick	.....	3,950	4,025
Burrton	.....	14,375	13,900
Lorraine	.....	4,675	4,825
Russell County	.....	35,350	32,325
Silica	.....	22,175	22,625
Others	.....	109,900	109,425
Total Kansas	195,600	207,125	204,450
LOUISIANA—			
North Louisiana	.....	88,125	86,075
South Louisiana	.....	170,000	172,250
Total Louisiana	253,000	258,125	258,325
ARKANSAS	28,400	29,535	29,075
CALIFORNIA—			
Long Beach	.....	58,000	58,500
Santa Fe Springs	.....	43,500	44,000
Huntington Beach	.....	37,000	39,000
Dominguez	.....	29,000	28,500
Inglewood	.....	15,000	15,500
Ventura Avenue	.....	36,000	34,500
Seal Beach	.....	9,500	9,500
Midway-Sunset	.....	74,500	77,000
Elwood	.....	8,500	8,500
Kettleman Hills	.....	80,000	80,000
Mountain View	.....	18,500	18,500
Playa del Rey	.....	8,500	8,500
Wilmington	.....	50,500	51,000
Others	.....	196,500	199,000
Total California	605,500	665,000	672,000
MOUNTAIN STATES—			
Wyoming	52,900	53,250	54,100
Montana	16,200	17,550	17,250
Colorado	4,700	5,250	4,600
Total Rocky Mountain States	73,800	76,050	75,950
NEW MEXICO	100,800	114,500	115,100
EASTERN STATES	122,100	121,500	121,200
MICHIGAN	39,800	45,000	43,700
Total United States	3,423,800	3,569,685	3,586,775

Stanolind Company builds Kansas loading rack

Wichita.—Stanolind Crude Oil Purchasing Company, has built a seven-car loading rack on the John Moore farm between Shaffer and Albert, in Western Kansas. It handles all the production of the south Otis and Sibert pools, which now aggregates 22,000 barrels a month.

A four-inch line connects the loading rack with all the oil wells in the south Otis and Albert pools. The oil is transported by tank cars to Raymond, thence via pipeline to Whiting, Ind.

More Helium

Amarillo, Texas.—Operation of the United States Government's helium plant near here has been stepped up to its maximum capacity of 5,000,000 cubic feet of throughput gas daily. Production had been curtailed for some months. Portion of the Panhandle natural gas field that yields about 1.84 percent helium is connected to the plant with a direct line.

CRUDE OIL PRICE SCHEDULES

(Figures Revised to July 31, 1937)

MID-CONTINENT GRAVITY SCALE PRICES (Posted January 28, 1937)

(Some fields of Mid-Continent have flat price postings, and are shown separately.)

Gravity	Okla.-Kans.	North La.-Ark.	Rodessa, La.-Tex.	North & W. Cent. Tex.	East Cent. Tex.	Gray Co. Tex.	Carson Hutchinson Co. Tex.	[1]Conroe, Tex. Type	West Tex.-N. Mex.	[2]Gulf Coast (Tex.-La.)	[3]Some La. Gulf Areas	[4]Anahuac, Tex. Type	[5]Refugio, Tex. Type	[6]Mirando, Tex. Type
17–17.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	*$0.90	.....	.....	.....	.....
18–18.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.92	.....	.....	.....	.....
19–19.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.94	.....	.....	.....	.....
20–20.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.96	*$0.90	.....	*$1.01	*$0.96
21–21.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.98	.93	.....	1.03	.98
22–22.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.01	.96	.....	1.05	1.00
23–23.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.04	.99	.....	1.07	1.02
24–24.9	*$0.98	*$0.90	*$0.93	*$0.88	.....	.....	.....	.....	.....	1.07	1.02	.....	1.09	1.04
25–25.9	1.00	.92	95	.90	.....	.....	.....	.....	*$0.78	1.10	1.05	.....	1.11	1.06
26–26.9	1.02	.94	.97	.92	.....	.....	.....	.....	.80	1.13	1.08	.....	1.13	1.08
27–27.9	1.04	.96	.99	.94	.....	.....	.....	.....	.82	1.15	1.10	.....	1.15	1.10
28–28.9	1.06	.98	1.01	.96	*$1.03	.....	.....	*$1.20	.84	1.17	1.12	.....	1.17	1.12
29–29.9	1.08	1.00	1.03	.98	1.05	.....	.....	1.22	.86	1.19	1.14	.....	1.19	1.14
30–30.9	1.10	1.02	1.05	1.00	1.07	.....	.....	1.24	.88	1.21	1.16	$1.16	1.21	1.16
31–31.9	1.12	1.04	1.07	1.02	1.09	.....	.....	1.26	.90	1.23	1.18	1.18	1.23	1.18
32–32.9	1.14	1.06	1.09	1.04	1.11	.....	.....	1.28	.92	1.25	1.20	1.20	1.25	1.20
33–33.9	1.16	1.08	1.11	1.06	1.13	.....	.....	1.30	.94	1.27	1.22	1.22	1.27	1.22
34–34.9	1.18	1.10	1.13	1.08	1.15	*$0.96	*$0.91	1.32	.96	1.29	1.24	1.24	1.29	1.24
35–35.9	1.20	1.12	1.15	1.10	1.17	.98	.93	1.34	.98	1.31	1.26	1.26	1.31	1.26
36–36.9	1.22	1.14	1.17	1.12	1.19	1.00	.95	1.36	1.00	1.33	1.28	1.28	1.33	1.28
37–37.9	1.24	1.16	1.19	1.14	1.21	1.02	.97	1.38	1.02	1.35	1.30	1.30	1.35	1.30
38–38.9	1.26	1.18	1.21	1.16	1.23	1.04	.99	1.40	1.04	1.37	1.32	1.32	1.37	1.32
39–39.9	1.28	1.20	1.23	1.18	1.25	1.06	1.01	1.42	1.06	1.39	1.34	1.34	1.39	1.34
40 & Above	1.30	1.22	1.25	1.20	1.27	1.08	1.03	1.44	1.08	1.41	1.36	1.36	1.41	1.36

* Minimum price and applies also to purchases of lower gravity.

[1] Conroe, Tomball, Satsuma, Raccoon Bend Deep fields.

[2] Upper Texas Gulf Coast, including Goose Creek, Spindle Top, etc., and some fields of Louisiana Gulf Coast, including Black Bayou, White Castle, Vinton, Hackberry, etc.

[3] Choctaw, Darrow, Lockport, Iowa (Magnolia posting), Cameron Meadows, etc.

[4] Anahuac, Dickinson, Flour Bluff, Turtle Bay.

[5] Lower Texas Gulf Coast, including Refugio, Saxet, etc. Posted 7-6-37.

[6] Duval, Jim Hogg, Webb, and Zapata Counties; Heyser, Placedo fields. Posted 7-6-37.

Mid-Continent Flat Prices

	Flat Price	Date Posted
Arkansas:		
Smackover	$0.90	1–28–37
Louisiana:		
Garden Island	1.37	1–28–37
Lafitte	1.24	1–28–37
Texas:		
East Texas	1.35	5–22–37
Talco	.73	1–28–37
Livingston, Cleveland	1.27	1–28–37
Hardin	1.15	1–28–37
Van	1.10	1–28–37
Pettus	1.37	1–28–37
Pecos County	.91	1–28–37
Pecos Shallow	.81	1–28–37
Luling	1.00	1–28–37
Lytton Springs	1.12	1–28–37
Salt Flat, Darst Creek, Hilbig, Carroll, Clark, Zoboroski	1.09	1–28–37

Michigan Prices

Central Michigan	$1.27	7–24–37

Middle West Prices

Lima	$1.25	1–28–37
Illinois	1.35	1–28–37
Princeton	1.35	1–28–37
Western Kentucky	1.40	1–28–37

Rocky Mountain States Prices

	Flat Price	Date Posted
Elk Basin	$1.30	1–28–37
Frannie Light	.70	11– 4–36
Frannie Heavy	.62	11– 4–36
Grass Creek Light	1.30	1–28–37
Grass Creek Heavy	.62	11– 4–36
Hamilton Dome	.57	11– 4–36
Big Muddy	1.23	1–28–37
Rock Creek	1.20½	1–28–37
Sunburst	1.20	1–28–37
Lance Creek	.97	1–28–37
Osage	1.08	.....
Cat Creek	1.07	8–25–33
Cut Bank	1.35	6– 3–36
Pondera	1.05	9–29–33
Hogback	1.00	9– 8–33

Pennsylvania Prices

Bradford-National Transit	$2.82	6– 7–37
Sw. Pa. Pipe Line	2.57	6– 7–37
Eureka Pipe Line	2.52	6– 7–37
Buckeye Pipe Line	2.37	6– 7–37
Corning Grade	1.42	6– 7–37

Canada Prices

Petrolia	$2.10	9– 9–33
Oil Springs	2.17	9– 9–33

Mexico Prices

F.O.B. Tampico; net; U.S. Currency, buyer pays tax	$1.24	.....

Major Price Changes

	Penns. (Nat. Tr.)	Mid.-Cont. (36 Gr.)	Calif. (26 Gr.)
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 29, 1935	.....	.....	Cut *1
September 6, 1935	Up 5	.....	.....
October 29, 1935	Up 15	.....	.....
November 1, 1935	.....	.....	Up *28
November 18, 1935	Up 15	.....	.....
December 6, 1935	.....	.....	Up *9
January 9, 1936	.....	Up 10	.....
January 13, 1936	Up 15	.....	.....
February 26, 1936	.....	.....	Up †5
December 28, 1936	Up 12	.....	.....
January 28, 1937	.....	Up 12	.....
February 24, 1937	Up 10	.....	.....
June 7, 1937	Up 15	.....	.....

* Signal Hill 26 gravity. † Seal Beach 26 gravity.

Crude Production Taxes

Oklahoma—Five percent of gross value less royalty interest.

Texas—2¾ cents or 2¾ percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and ¾ of 1c per barrel.

New Mexico—Severance tax of 2 percent on oil and gas.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

WORLD DEVELOPMENT and TECHNOLOGY

Edited by
WM. V. GROSS, Associate Editor

Turner Valley Flank

TEST MAKES LARGE INITIAL FLOW FROM MADISON LIME

MONARCH ROYALTIES test on the west flank of Turner Valley, Alberta, Canada, was bottomed at 7007 feet, 467 feet in the porous Madison lime, and shows promise of being in the 1000-barrel class. Officials of the company refused to issue production figures until flush production subsided, but admitted the well showed up very good.

Location of the test on Legal Subdivision 9, Section 28, Township 18, 2w-5, materially extends the proven area of the field to the west. The crude was of 41.5 degrees Baume. Officials are considering acidization and if the treatment is given, the well will be the first in the Turner Valley field to be acidized immediately upon completion. Anglo-Canadian Development & Holding Company, Ltd., drilled the test with rotary equipment. The Belly River-Benton contact was at 2330 feet, the Cardium sandstone at 4200 feet, the Benton-Blairmore contact at 5130 feet, the coal marker at 5780 feet, the Blairmore-Kootenay contact at 6260 feet, the Kootenay-Fernie at 6390 feet, the Belemnites at 6500 feet and the Fernie-Madison limestone contact at 6538 feet.

Royalite Oil Company's Sterling-Pacific No. 5, drilling with rotary equipment at 6851 feet, 230 feet in the lime, is the next test scheduled for completion. Location is Legal Subdivision 5, Section 33, Township 18, 2w-5, northwest of this company's Sterling-Pacific No. 4, at present largest producer in the Valley.

Increasing gas flow at Richland Oil Company's No. 3, next deepest drilling Turner Valley test, made advisable installation of a control head. The test was drilling at 5767 feet, 160 feet in the producing formation, with standard equipment. Location is Legal Subdivision 14, Section 28, Township 18, 2w-5, northeast of B. and B. Royalties, Ltd., and Turner Valley Royalties, Ltd., both large producers.

Tubing was to be run in the B. and B. Royalties well over the week-end, preparatory to acidization. Once the largest producer in Turner Valley, the well yielded an average of 593 barrels a day during June. On the basis of treatment given to other wells during the past two months, it is expected that production will be boosted to about 1000 barrels a day.

After a month's delay caused by heavy caving in the hole which covered about 425 feet of the producing horizon, Cen-

CALIFORNIA CRUDE OIL PRICES (Posted February 26, 1936).

(All gravities above those quoted take highest prices of that field.)

Gravity	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canyon	Athens Rosecrans	Elwood Terrace	Torrance	Richfield	Whittier East Coyote La Habra	Montebello	West Coyote Hills	Santa Fe Springs	New Hall McKittrick Kern River Round Mountain	Mountain View	Midway-Sunset Buena Vista Hills Elk Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$ 80	$ 79	$ 78	$ 79	$ 80	$ 76	....	....	$ 80	$ 76	$ 76	$ 77	$ 78	.....	$ 70	....	$ 70	$ 70	$ 70	....
15-15.9	80	79	78	79	80	76	....	....	80	76	76	77	78	.....	70	....	70	70	70	....
16-16.9	80	79	78	79	80	76	....	....	80	76	76	77	78	.....	70	....	70	70	70	....
17-17.9	80	79	78	81	80	76	....	....	80	76	76	77	78	.....	70	....	70	70	70	....
18-18.9	80	79	78	84	80	78	....	....	82	76	76	77	78	.....	70	....	70	70	70	....
19-19.9	82	79	82	87	84	81	....	....	85	76	78	77	78	.....	70	$ 70	74	74	71	$ 70
20-20.9	85	79	85	90	88	84	....	....	88	78	82	77	80	.....	.....	70	78	78	72	70
21-21.9	88	79	89	93	93	88	....	....	91	80	85	77	84	$ 78	.....	73	82	82	74	70
22-22.9	92	82	92	96	98	92	....	....	93	84	89	79	88	78	.....	77	87	86	78	72
23-23.9	95	86	96	99	1 02	96	$ 84	....	96	88	93	82	92	78	.....	80	92	90	82	76
24-24.9	99	91	1 00	1 02	1 06	99	88	....	99	91	96	85	96	82	.....	84	97	94	86	79
25-25.9	1 03	95	1 03	1 05	1 11	1 03	93	....	1 02	95	....	89	99	86	.....	88	1 01	98	90	83
26-26.9	1 06	1 00	1 07	1 09	1 16	1 06	98	....	1 05	98	....	92	1 03	90	.....	91	1 06	1 02	....	....
27-27.9	1 10	1 05	1 11	1 12	....	1 10	1 03	....	....	1 02	....	96	1 06	95	.....	95	1 10	1 06	....	....
28-28.9	1 14	1 10	1 14	1 15	....	1 14	1 07	....	....	1 06	....	99	1 10	99	.....	99	1 15	1 10	....	....
29-29.9	1 17	1 15	1 18	1 18	F.O.B.	1 17	1 12	....	....	1 09	....	1 03	1 14	1 03	.....	1 02	1 20	1 14	....	....
30-30.9	1 21	1 19	1 22	1 21	Pipe	1 21	1 17	F.O.B.	....	....	....	1 07	1 17	1 08	.....	1 06	1 25	1 18	....	....
31-31.9	....	.....	....	1 24	Line	1 24	1 22	Ship	Kettleman Hills			1 11	1 21	1 12	.....	1 09	1 29	....	....	....
32-32.9	....	.....	....	1 27	....	1 27	1 27	Kettleman Hills				1 14	1 25	1 16	.....	1 13	1 34	....	....	....
33-33.9	....	.....	....	....	....	....	1 32	$1 28	1 19			1 18	1 28	1 20	.....	1 17	1 38	....	....	....
34-34.9	....	.....	....	....	....	....	1 37	1 32	....	1 23	....	1 22	1 32	1 25	.....	1 20	.....	....	....	....
35-35.9	....	.....	....	....	....	....	1 42	1 35	....	1 27	....	1 25	....	1 29	.....	....	.....	....	....	....
36-36.9	....	.....	....	....	....	....	1 46	1 39	....	1 31	....	1 29	....	1 33	.....	....	.....	....	....	....
37-37.9	....	.....	....	....	....	....	1 51	1 43	....	1 35	....	1 32	....	1 37	.....	....	.....	....	....	....
38-38.9	....	.....	....	....	....	....	1 56	....	....	1 39	....	1 36	....	1 42	.....	....	.....	....	....	....
39-39.9	....	.....	....	....	....	....	1 61	....	....	1 43	....	1 40	....	.....	.....	....	.....	....	....	....
40-40.9	....	.....	....	....	....	....	1 66	....	....	....	....	1 43	....	.....	.....	....	.....	....	....	....

tury Royalties is about ready for acid treatment. The hole has been cleaned out to the old bottom. Production at Miracle Oils, Ltd.'s No. 2, the only well to be treated during the week, was boosted from 60 to 125 barrels daily.

Makes Speed Record

Royal Canadian Oils No. 1, using rotary equipment, set a new record for Turner Valley drilling progress during the past week with average daily footage of 160 feet. The well was drilling at 1475 feet as the week closed. Location is Legal Subdivision 15, Section 20, Township 18, 2w-5.

Firestone Petroleums No. 1, a mile southeast of Monarch Royalties test, encountered the Cardium sandstone at 3860 feet, 380 feet shallower than at Foundation Petroleums' producer half a mile north. As a result, the test is expected to reach the Madison limestone, producing formation, at a comparatively shallow depth. It was drilling at 4025 feet as the week closed.

On the Pincher Creek structure, Weymarn Petroleums wildcat, bottomed at 5960 feet where it encountered strong showings of oil, is to be acidized.

Deepening of Plains Petroleum Corporation's No. 1, discovery well on the Taber structure, revealed the Clancey sands to be between 3190 and 3285 feet. Continuing, a limestone sand was penetrated at 3300 feet and at 3302 feet a sand with heavy oil saturation was encountered. The well is bottomed at 3310 feet and samples disclose a heavier saturation than in the Clancey sands where commercial production had previously been obtained. The hole was plugged at 3300 feet and 4½-inch casing is being run to that depth. Derrick has been completed and other material is on location at the company's No. 2 well, which has been idle for three weeks following fire that destroyed the old derrick and equipment. The hole is down 2300 feet. Plains Petroleum Corporation's No. 3 was spudded in last week.

Drilling Report

Following is the status at other active Turner Valley tests as the week closed: Brown Oil Corporation's No. 1, drilling at 5570 feet; No. 2, drilling at 5275 feet; No. 3, drilling at 2050 feet; Command Oils, waiting casing at 810 feet; Commoil, drilling at 5210 feet; Davies Petroleums No. 1, drilling at 2910 feet; No. 2, drilling at 2680 feet; Four Star Petroleums, drilling at 4400 feet; Globe Royalties, cemented at 1450 feet; Granville Oils, drilling at 5293 feet; Home Oil Company, drilling at 2740 feet; Mercury Royalties, drilling at 5120 feet; Mercury Oils No. 8, drilling at 5046 feet; Model-Spooner-Reward Royalties, drilling at 4255 feet; National Petroleum Corporation's No. 1, drilling at 4650 feet; No. 2, drilling at 2865 feet; Okalta Oils, drilling at 205 feet; Phillips Petroleums, drilling at 3705 feet; Prairie Royalties, drilling at 5136 feet; Richland Oil Company's No. 1, shut down for repairs at 3150 feet; No. 2, drilling at 5110 feet; Rich-Well Oil Company, drilling at 1190 feet; Royal Crest Petroleums, drilling at 4570 feet; Royalite Oil Company's Sterling-Pacific No. 6, drilling at 2420 feet; Share Royalties, drilling at 5510 feet; Spy Hill Royalties, drilling at 535 feet; Sunburst Oil Company, waiting drill pipe at 2610 feet; Sunset Oils, waiting rotary equipment from Monarch Royalties at 3044 feet; Three Point Petroleums, drilling at 3556 feet; Vulcan Oils-Brown, drilling at 1500 feet; West Crest Petroleums' No. 1, temporarily idle at 4300 feet; West Flank Oil Company's No. 1, bottomed at 3091 feet, reaming to 1880 feet; No. 2, drilling at 1675 feet; No. 3, derrick up; West Turner Petroleums, waiting boilers.

From other West Canadian structures, the following reports were obtained: On Birch Ridge, Elbow Oil Company, drilling at 5180 feet; on Calling Valley, Anglo-Indian Oils Corporation, building derrick; Sentinel Oils, resuming from 5850 feet; on Cardston, Franco Oils, drilling at 3707 feet; on Coutts, Home Oil Company's Coutts No. 1, drilling at 100 feet; on Duncan, Spindletop Oils, drilling at 502 feet; on High River-Aldersyde, Ranchmen's Gas & Oil Company, drilling at 7195 feet; on Highwood-Sinclair, Banner Oils, drilling at 2814 feet; South End Petroleums No. 1, reaming at 4860 feet; on Hunter Valley, Hunter Valley Oil Company, drilling at 8039 feet; on Kootenay Dome, Roxana Petroleums, drilling at 3035 feet; on Lethbridge, Lethbridge Petroleums, drilling at 1355 feet; on Moose Dome, Moose Oils No. 2, drilling at 1335 feet; on New Valley, New Valley Oil Company, drilling at 8275 feet; on Steveville, Anaconda Oil Company, drilling at 345 feet; on Wainwright, Altoba Oils, erecting derrick; Battleview Oils, drilling at 1400 feet; on Watson, Mar Jon Oil Company's No. 3, drilling at 5440 feet; Mar Jon-Maxmont Syndicate, drilling with no depth reported.

CANADA
Completions[1]

Company, Well and Location	Init. Prod. Bbls.	Depth
TURNER VALLEY—		
B. & B. Royalties, No. 1, L. S. D. 12, 28-18-2-w5	900	....
Westside Royalties, No. 1, L. S. D. 3, 21-18-2-w5	255	6370
Newfold Royalties, No. 1, L. S. D. 11, 21-18-2-w5	20	6240
Royalite Oil Co., Sterling-Pacific 4, L. S. D. 4, 33-18-2-w5	1350	7184
Dalhousie 8, L. S. D. 6, 30-19-2-w5, Turner Valley	*	6910
HIGH RIVER-ALDERSIDE—		
Arca Development Co., No. 1, L. S. D. 16, 24-18-1-w5	*	8988
TABER STRUCTURE—		
Plains Pet. Corp., No. 1, L. S. D. 14, 25-9-17-w5	76	3250

[1]Includes wells completed since Jan. 1, 1937.

*Failures; †Junked; ‡Million cu. ft. gas.

ASK CONCESSIONS
Guatemalan syndicates want 110,000 hectares

Official action of the Guatemalan government is awaited on two petitions for petroleum exploration and exploitation concessions involving 110,000 hectares in the Department of Izabal, according to Diaro Oficial of Guatemala.

A syndicate of seven members applied for a concession on 70,000 hectares including most of that part of the department lying north of Lake Izabal and west of Livingston. The other syndicate, comprised of four members, petitioned for rights to explore 40,000 acres along the Puerto Barrios-Guatemala railroad leading to Morales. The area asked for is south of Puerto Barrios.

Neither of the concessions becomes effective until authorization by the ministry of public works is published in the government bulletin. This may not occur until September.

The larger of petitions asks three years in which to do exploration work and agrees to start such work within six months of the date the concession is granted. The petition requests also duty free entry of equipment for exploratory work.

SOLDIERS WORRIED
German militarists say not enough oil for war

Concern is expressed by German military observers and economics experts over the consequences of the great mechanization of modern armies which in wartime would rapidly consume more than the normal world production of gasoline and oil, according to Dr. F. Fridenburg, writing in the "German Economist."

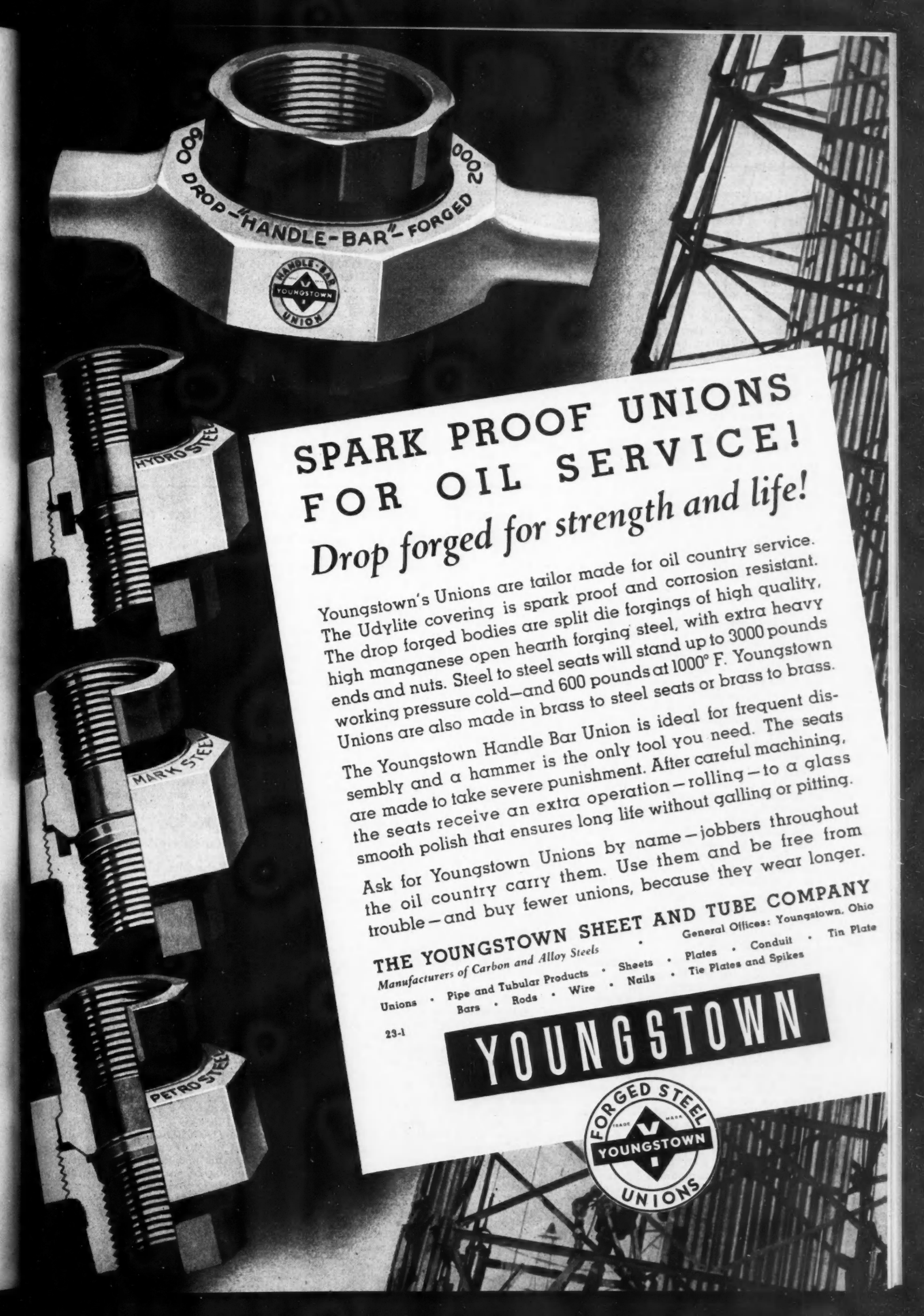
Dr. Fridenburg declared that several of the leading powers would in wartime run short of mobile power within several weeks, and pointed out that not even Russia and the United States, despite their large oil reserves, could carry on with normal production during wartime for longer than six months. Production of synthetic oil is not considered sufficient to meet the increased demand.

The following summary of the situation is given by Dr. Fridenburg:

1. In case of war, the oil needs of every great military power will reach 12,000,000 to 20,000,000 tons annually, several times that of peace production.
2. Russia and the United States are the only countries capable of supplying their own needs. In view of domestic requirements and enormous transportation distances involved in case of war, difficulties are certain even for these countries.
3. Requirements for the other countries in the given amounts cannot be fulfilled, even with free unhampered imports.
4. Only in coal-rich countries is synthetic manufacturing of significance. Grave financial and technical obstacles of such character intervene as to render complete or partial production of oil needs for war requirements in this manner impossible.
5. Thus far substitutes introduced are insufficient in quantity.
6. Oil-poor countries have accumulation of large reserve stores as the sole possibility remaining, also with financial and technical difficulties. No military power up to now seems to have stored up a large part of its war needs, Dr. Fridenburg said.

3 MEXICAN PERMITS

Mexico's ministry of national economy announces the granting of the following drilling permits: Petromex: Petromex 42 in the federal zone at Buenavista, Panuco, Vera Cruz state. Aldamas y Bravo, S. A.: El Zacate 6, General Bravo municipality, Nuevo Leon state, near the American border. Consolidated Oil Fields of Mexico: Carlos Cantu 4, General Bravo municipality, Nuevo Leon.



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23-1

YOUNGSTOWN

FORGED STEEL TRADE MARK YOUNGSTOWN UNIONS

Legislation

[*Continued from Page 12*]

grand jury investigations, both on the Atlantic and Pacific coasts.

"If such grand jury action is not taken soon," he asserted, "there will be no independents left; in fact, the situation on the Pacific Coast today is that the independent wholesalers have been 'squeezed' out of the business. The malpractices of the major oil companies on the West Coast are almost common knowledge," he told the house; "the states are helpless to proceed for lack of jurisdiction as the headquarters of the major oil companies are not within the state borders. When a state does bring court action or start an investigation the major oil companies hide behind their 'interstate' character of doing business to avoid testifying or submitting the evidence from their records. Only federal grand juries can do a complete job of investigating and piecing together the essential evidence."

The fate of the independent oil marketer hinges upon the second Madison indictment, which, Coffee said, unveils a "gigantic conspiracy" on the part of the marketing producers to put the independent jobber out of business "by fixing his margins at a figure below his operating cost."

Pennsylvania Investigation

Testimony that producers were the "downtrodden" element in Pennsylvania's oil industry, and charges that major refining companies resorted to unfair trade practices in relations with retail dealers were heard last week by a legislative committee conducting an investigation of the oil and natural gas industry to determine whether it should be subjected to state regulation.

Peter H. Curry, president of South Penn Oil Company, declared that one of the most serious troubles facing the industry in Pennsylvania was the fact that "75 percent of our production is in competition with Western oil." He denied that his company, or any other, fixes the price for Pennsylvania crude, and declared it was determined by supply and demand.

"I think the producer is the downtrodden man in the oil industry," Curry said. "Any kind of a slump always falls back on the poor little producer, and I am one of them."

Clarence Shock, of Shock Independent Oil Company, Mount Joy, and president of the Independent Petroleum Jobbers' Association of Pennsylvania, told the committee that government control of the industry and government aid for the independents was a necessity.

"We independents believe in ethical rugged individualism to safeguard the public, but the control by monopoly has never been as bad as it is today," Shock said. "We little fellows will be lucky to survive unless there is some change in the attitude of the federal government. The government doesn't do business very well, but it is better than the big oil companies so far as the public is concerned. We feel it would not be feasible for the state to take over the oil industry as it has the retailing of liquor. That is neither necessary nor is it the right way to clean up the business. Gasoline could be sold in this area for 12 cents exclusive of tax and everyone would make a profit."

Testimony that Standard Oil Company of Pennsylvania sold or leased most of its stations because of the social security act and other federal and state legislation, was given by E. E. Collins, vice president of the company. Similar testimony was given by W. V. Hartmann, vice president of Gulf Oil Corporation, with respect to his company.

Collins told the committee that a recent increase of 1 cent a gallon in the price of gasoline was due to increased costs of production and marketing, and not to any scarcity. Questioned about a recent difference between the price of gasoline in the eastern and western parts of the state, Hartmann said that the price in the east was too low.

Testimony concerning production of Pennsylvania crude was also given by Curry. Above ground storage of crude in 1932 totaled 7,000,000 gallons, the South Pen official stated, but has since dropped to 3,700,000 gallons. During that period, the price of high grade Bradford crude was advanced from $1.80 to $2.82 a barrel. Basing his estimate on a survey by the American Petroleum Institute, he said the total amount of oil in Pennsylvania would be exhausted in 30 years. The survey showed there were approximately 307,000,000 barrels, he said.

Pipe Line News

Two projects involving 185 miles of line planned for Sweden area in South Texas.

CONSTRUCTION of a network of pipe lines in South Texas, including two from the Sweden District to tidewater, together with a 6000-barrel refinery and large tank farm at Corpus Christi, were the most important news of the week. The projects will involve the laying of about 185 miles of from 4 to 8-inch welded line, building of booster stations, etc., at a total cost of several million dollars.

New South Texas Lines

E. L. Buckley interests is known to be definitely planning the building of a six or eight-inch main directly west from Corpus Christi, through Driscoll to a point just south of Alice in Jim Wells County. At this point, three short lines, ranging from 4 to 5½ inch, will be run to the northwest to the Seven Sisters sector, to the west to the North Sweden Field and to the south to Premont and likely into Brooks County where new development is underway.

Crude Oil Pipe Line Company, headed by E. L. Buckley, owns a 5½-inch line running from the Government Wells District to Corpus Christi. This line, in addition to its local gathering system, has a 4-inch lateral line to the Moca and intermediate fields, to Seven Sisters District and another to the Cole-O'Hern area, the latter being owned by Buckley's Saxet Heights Pipe Line Company. Still another spur this system is operating is from the Clara Driscoll Field in Nueces County. As a result, the system is taxed to its capacity and unable to handle the tremendous crude purchases and sales by this concern.

The new system will greatly relieve this situation, as some connections likely will be converted from the old system to the new wherein possible.

While the definite details have not been announced. it is understood that the Buckley interests will build a large tank farm about five or six miles from Corpus Christi. Crude Oil Terminal Company's terminal on the Corpus Christi ship channel will continue to be operated as a terminal, but the bulk of the crude will be stored at the new tank farm. The refinery project, also a Buckley venture, is to be a skimming proposition with a capacity of about 6000 barrels per day.

The formal announcements on the above projects is expected to be made about October 1 with the first construction to be started immediately after that date.

The pipe line system to be built by the Buckley interests will be composed of about 60 miles of either six or eight-inch pipe in the main line, while the three feeder lines will be of 4 to 5½ inch pipe and will constitute about 55 miles of line.

Benavides Line

Republic Pipe Line Company shortly will commence the construction of a 6 or 8-inch line from a point near Benavides to the Republic Terminal on the Corpus Christi Ship Channel, a distance of about 70 miles. The line will tie into the company's gathering system in the Sweden and North Sweden Fields, now connected to loading racks on railroad right-of-way at Sweden and Benavides.

The details in the plan for this line have not been announced, but it is likely that it will follow a straight easterly line to Corpus Christi. While the program for expansion of the Republic Terminal at Corpus Christi, this is evident as present facilities are hardly sufficient to handle the large amount of crude now being received.

Republic Pipe Line Company is also understood to have been negotiating with producers in Brooks County with the idea of extending the line south from Sweden or the building of an entirely separate feeder line to tie into the main system.

Proration

[Continued from Page 12]

The present market for the 35,000,000 feet of gas allowable is listed by the producers as follows: 20,000,000 feet to be purchased ratably from producers by United Gas; 1,000,000 cubic feet for operation of United's gasoline plant at Cotton Valley; 750,000 cubic feet as fuel for each of the 12 rigs operating in the field; 3,000,000 feet used by Ohio Oil Company for fuel and repressuring of the 2800-foot (Ozan) horizon in the old Haynesville field in Township 23 North, Range 8 West; 1,000,000 feet used by Ohio Oil Company as fuel in operating the shallow oil wells at Cotton Valley; and 500,000 cubic feet daily used in Ohio's gasoline plant at Cotton Valley. Companies told Commissioner Rankin those were the only market outlets they could find at present.

The order, therefore, on space and allowable holds gas production to 35,000,000 feet daily and stipulates there must be no waste of gas. The wells will be prorated on a 75 percent acreage and 25 percent bottom-hole pressure.

Michigan gas test

An official survey to determine the total open gas flow of Michigan wells in an attempt to determine what was behind contentions of Michigan gas producers that their supply was greater than their market was ordered at Lansing last week by Commissioner Glenwood C. Fuller of the state public utilities commission.

The order followed a hearing on an application of Washtenaw Gas Company, Ann Arbor, for permission to tap a gas line supplying gas to Detroit from the Texas Panhandle. Cost of the cut-in line is estimated at $128,000, while a 110-mile line to state fields would cost about $660,000. Objectors to the cut-in claimed that tapping the Texas line would deprive Michigan fields of a profitable market.

Wants State Survey

"I want an authentic survey of the total open gas flow of the state," Fuller said, "and I want to learn the total sales of gas from Michigan fields. I think the commercial welfare of the state should be considered. I want to see what can be done about the state's commercial welfare problem."

R. A. Whitehead, Lansing gas producer and attorney, showed a chart which he said presented an accurate picture of the state's gas situation for the nine months ending last June. He said the average daily open flow in the Six Lakes gas fields was 4,800,000,000 cubic feet and that daily average sale by producers was 12,700,000 cubic feet, or .264 percent of the 17.5 percent of open flow allowed to be taken from the wells under state law. In the New Haven fields, .615 percent of the limit allowed was sold, while in the Broomfield gas section an average of 8.6 percent of the limit allowed was sold, he said.

Hearing on Washtenaw Gas Company's application was continued to August 4.

Texas hearings scheduled

The Texas Railroad Commission has scheduled two hearings for August 9 on rules for new fields.

At the morning session the commission will take up conditions around the Iron Mountain Oil Company well in the Olander area near Section 196, DBB&C Survey in Jones County.

At the afternoon session, new rules for wells in the South Calliham field, McMullen County, will be considered. Harrison and Danvers have recently completed a ten barrel well in this area. They found none of the gas encountered in another part of the South Calliham field and seek to have rules amended to provide for lighter equipment than is needed to handle the gas.

The Texas Railroad Commission has scheduled a hearing in Austin on August 10 on the new south Burnell field in Bee County, South Texas. Rules for spacing and drilling will be considered at that time.

On August 6 at Houston the commission will hold a hearing to determine proper gas-oil ratios for wells in the new Hull field, Liberty County. Operators insist that if the flow of these wells is restricted, gas-oil ratios will be excessive.

The commission has issued an order increasing the allowable for wells in the Benavides field, Duval County, effective August 1. The statewide order fixed the allowable at 80 barrels per well, while they will be permitted to produce 100 barrels under the revised order.

Labor

[Continued from Page 12]

prevailing in all other manufacturing industries.

Although the average refinery worker is now required to do only 73 percent of the work he did in 1929, his weekly earnings, because of higher hourly rates, are at a higher level. Working 49 hours a week in 1929, the average refinery worker earned $31 per week. Now he works only 35.6 hours and receives $33.59, an increase of 8 percent over 1929.

The average weekly wage for all industries is $26.30, approximately 22 percent below the level obtaining in the petroleum industry. Only 2 of 91 other industries covered by the bureau's report show higher average weekly earnings. In both cases, longer hours account for the higher weekly earnings.

In respect to purchasing power, refinery workers are much better off than the dollar earnings indicate, points out the American Petroleum Institute. In 1929 the index of the cost of living, a statistical device which measures the retail price level of commodities in every-day use, stood at 98.9, thus giving the dollar weekly earnings of refinery workers a purchasing power of $31.40. Currently, the index of the cost of living stands at 88.8, bringing the purchasing power of the $33.59 average weekly earnings to $38, or 21 percent above 1929 "real" earnings.

El Tanque order

A 10-acre spacing rule for the El Tanque field in Starr County, promulgated some time ago by the Railroad Commission, has been suspended indefinitely.

The official notice of suspension said that further evidence was necessary to justify the rule. It was recalled that at the hearing Sun Oil Company alone felt that a rule was now needed. Other operators in the El Tanque field wanted to continue for a while on the statewide rule so that they might make further exploration without being hampered by the necessity for wide spacing.

Standard completes first of eight new tankers

The S. S. Esso Bayonne, first of 8 new oil tankers in a $13,000,000 building program inaugurated last year by Standard Oil Company of New Jersey, was launched July 24 at the works of the Federal Shipbuilding & Dry Dock Company, subsidiary of United States Steel Corporation, at Kearny, New Jersey.

Designed to carry over 4,400,000 gallons of gasoline and oil in bulk, the S. S. Esso Bayonne is an oil burner, 450 feet long, has a deadweight of 12,900 tons, will travel at a sea speed of 12 knots, and will operate at an efficiency of from 20 to 40 percent greater than present-day tankers.

Miss Katharine C. Gorman of Bayonne, for 30 years an employe of Standard Oil Company of New Jersey, was the sponsor. A reception for the sponsor was held in the Yard Restaurant Building immediately after the launching.

The S. S. Esso Bayonne is modeled after two tankers designed and built by Federal in 1934 for the purpose of achieving higher operating efficiencies. They were sold before half finished and are today the model for other new tankers under construction.

Federal Shipbuilding & Dry Dock Company was awarded contracts for the first four tankers in July, 1936, and expects to launch the remaining three in the near future.

Wilmington refinery

Los Angeles.—Ring Oil Company is building a small refinery at Seal Beach to process the crude to be purchased at Wilmington and it is understood other independent interests plan to secure control of certain shut-down topping plants to process their production, since so far no major pipe line is willing to post a price for the field and build gathering lines.

Edington Oil & Refining Company has posted a price ranging from 55 cents to 70 cents for Wilmington crude, according to gravity, which is about 10 cents a barrel above the tank truck price. This concern has a refinery at Long Beach.

Activity in flush areas continues at high rate.

* * *

Moore pool plug-back job makes a good producer.

* * *

Shawnee and Billington areas face failure prospect.

Oklahoma City.—This sector of Oklahoma gave no ground last week, as activity in flush producing areas continued high. While several good producers were in the process of completion in established pools, edge wells continued feeling gingerly for the rim of production.

Plugging back at a well in the Moore pool may establish a precedent or furnish a lead for other operators when pressure fails in the area, with better than average production being found in the Simpson above the Wilcox sand at a depth considerably above the present pay formation there. A good producer inside Moore and slow but sure shaping up of the Billings pool were other high spots for the week.

Plug-Back Success

Plugging back from production in second Wilcox sand to production in the upper Simpson at a well little more than a year old was a unique feature of activity in the Moore pool of Cleveland County last week. The well was Sinclair Prairie Oil Company's Peaches 1, NE SE NW 21-10n-2w, originally completed for 30,289 barrels of oil and 33,000,000 cubic feet of gas from 7309 feet in the second Wilcox sand. Following plugging back, the well is rated good for 1000 barrels of oil daily.

After production and pressure had dropped in the well, 382 sacks of cement were pumped into the hole, assisting in building the pressure up to 3200 pounds. A retainer was set at 7208 feet, well above the top of the second Wilcox, found at 7295 feet. Cement was drilled to 7290 feet and the well bailed, but it made no show. Drilled to 7303 feet, it was bailed 5000 feet and had a hole full of salt water. Plugged back once more, this time to 7233 feet, cement was drilled to 7288 feet and the well bailed dry, following which casing was perforated. After acidization with 6000 gallons, the well made approximately 699 barrels of oil net in 19 hours.

Another big producer for the pool was on its way last week as Sinclair Prairie continued efforts to complete Marvel 4, SE SW NE 21-10n-2w, which was shut in after blowing in and cutting out connections. The well, which had not completed cleaning out, was making lots of mud, fresh water and sand. During the first four hours of its flow, the well made 481 barrels of oil and averaged 52,000,000 cubic feet of gas an hour. Size of the well could not be immediately determined. It was producing from the Wilcox sand after bailing to 7283 feet. The company's Marvel 5, NW SE NE 21-10n-2w, found the Simpson at 6940 feet and drilled to 7210 feet. It was waiting on cement after setting 7-inch casing at 6920 feet.

Stanolind Oil & Gas Company and Amerada Petroleum Corporation's State 3, SE NE SW 16-10n-2w, farthest north drilling well in the pool, was coring at 7235 feet in Wilcox sand. The well had cored from 7180 to 7195 feet and recovered 10 feet of Simpson lime with no show. A second core from 7205 to 8215 feet had a 10-foot recovery with a slight show of oil. The next core, from 7215 to 7225 feet had 1½-foot of recovery the bottom part of which was Wilcox sand. It established top of the formation at 7224 feet.

Gulf Oil Corporation's James 2, SE NW SW 27-10n-2w, topped the Wilcox sand at 7275 feet and drilled to 7285 feet where it flowed 54 barrels of oil in one head and went dead. It was cleaning out at 7274 feet.

Sinclair Prairie Oil Company's Holmes 2, SE NE NE 28-10n-2w, was to acidize after getting a slight show of oil in the dolomite. The well had drilled to 7246 feet in the Simpson and bailed to 4500 feet to test a show before going ahead to the Wilcox sand. It bailed to the bottom for the last show.

Carter Oil Company's Hall 1, NW SE SW 27-10n-2w, topped the Hunton lime at 6696 feet; topped the Sylvan shale at 6866 feet; the Viola lime at 6980 feet and had the Simpson at 7035 feet. It was running 7-inch casing with the hole at a total depth of 7280 feet.

Lucien Pool

In the Lucien pool of Noble County, cable tools were being rigged up at Phillips Petroleum Company's Pfeiffer 4, NW SW NE 4-19n-2w, at the south end of the field. The well went into the Wilcox sand at 5000 feet and drilled to 5133 feet where it swabbed 126 barrels of oil in five hours. Testing was to continue. The company made location for Pfeiffer 5, NW NE NE 4-19n-2w.

In the Billings pool of the same county, Phillips Petroleum Company and Shell Petroleum Corporation's O'Neil 4, SW SE SE 16-23n-2w, made a potential of 2710 barrels of oil through tubing, production coming from 4265 feet in the Wilcox sand. Two weeks ago the well appeared it might be defining the northwest edge of Wilcox production as it cut 9 percent salt water during the initial flow. Pinched in, the percentage dropped to 3.2 for another period.

Further southwest extension of the field appeared in doubt despite completion of another good well in that area proved last week. It was Tide Water Associated Oil Company's Shaffer 5, NE SE SW 21-23n-2w, which flowed 255 barrels of oil during the first hour of a test from the Wilcox sand at 4316 feet. Well which established doubt in many minds was Tide Water's Shaffer 6, SEc. SW 21-23n-2w, checking about 40 feet lower than normal producers in the field. It was running casing at 4350 feet.

Two more tests were beginning to show as producers. At the north edge of the field, Lincoln Petroleum Company et al's O'Neil 1, SW NW SE 16-23n-2w, flowed 620 barrels of oil in seven hours accompanied by 3,250,000 cubic feet of gas, the production coming from 4255 feet in the Wilcox sand.

The other producer was Tide Water Associated Oil Company's Hackett 7, SWc SE 21-23n-2w, which made 470 barrels of oil in two hours from the Wilcox sand at 4341 feet. Gas was estimated at 2,000,000 cubic feet daily.

Continental Oil Company's Conway 5, SW SE NW 21-23n-2w, which came in for initial production of 1650 barrels of oil in four hours two weeks ago, was completed for a potential of 3956 barrels of oil and 2,350,000 cubic feet of gas, through tubing. Seven-inch casing was set at 4284 feet and the well had drilled to 4304 feet in the Wilcox sand. Conway 6, SEc SW 16-23n-2w, was drilling below 1000 feet and Conway 7, NW SE NW 21-23n-2w, was completing cellar.

Shawnee and Billington wildcats are not encouraging

Tulsa. — Poor showings in several wildcats slowed operations in this part of Oklahoma last week, many operators marking time until some development takes place which will show them how to proceed. The areas which looked bad included Shawnee and Billington of Pottawatomie County. These were partially offset by a possible new pool in Hughes County. Fitts continued on the active list as usual, but nothing of any consequence developed during the 7-day period just ended.

Things began looking bad for the Shawnee area of Pottawatomie County last week as Mid-Continent Petroleum Corporation's Logan 2, SE NE SE 31-11n-5e, was abandoned. The well had water in the hole, coming through perforations at 4500 feet, on a level with

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the Hunton lime. Reacidized earlier in the week with 7000 gallons, operators swabbed the load of 180 barrels of oil in eight hours, got very little free oil for their trouble. Increased water decided the plugging of the test.

Mid-Continent Petroleum Corporation's Ne-Thah-Pea-Se 1, SEc NE 24-11n-4e, was rigging up standard tools while waiting for cement to set on 7-inch casing set at 4818 feet. It had drilled and cored to 4886 feet in hard dolomite for no show. Top of the dolomite was found at 4853 feet and was well stained. A core from 4875 to 4886 feet with a full recovery showed the top four feet consisted of sandy dolomite with a good show and the bottom seven feet hard dolomite.

Another well in the area which is fast becoming of interest is Magnolia Petroleum Company's McMoran 1, SWc NW 32-11n-5e, east of Logan 2, which lately took a drill-stem test but which has made no report. Top of the Wilcox sand was found at 4848 feet and a core from 4848 to 4853 feet showed a 4-foot recovery of well saturated sand.

Billington Test Halted

In another part of Pottawatomie County, in the area recently opened for production by Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Billington 1, SW SE NE 32-9n-3e, a test which had been started as an offset to the initial producer apparently had bogged down. The well was Means 1, SWc SE 32-9n-3e, started by Shell Petroleum Corporation and recently turned over to Olson Drilling Company. Because of the poor showing in Billington 1, the test was shut down while still a rig and may remain that way indefinitely.

Carter Oil Company et al's Hamilton 1, CWL NE SW 33-4n-9e, in the Citra area of Hughes County, was reacidized with 1000 gallons at 5994 feet and July 29 swabbed 282 barrels of oil in six hours, 97 barrels over the load.

Second Ordovician field for South Oklahoma

Ardmore.—Indications of a second Ordovician field for Southern Oklahoma became favorable last week when saturated cores were taken from Carter Oil Company's Harley 1, C NE NE 24-2s-4w, between 7559 and 7615 feet. Drilling continued in the Simpson member, with extreme precautions prevailing to keep the hole under control in case of blowout.

Harley 1 is at the edge of the old shallow Milroy field, Stephens County, where production is more than 20 years old from sands of Permian age. Geological conditions which influenced the dome of the shallow production are considered similar for the deeper sands and limes. Drilling contract calls for 8200 feet, unless production is found higher. This test is 6 miles west of the only other deep producers in Southern Oklahoma, Carter Oil Company's Williams 1, SW NE SW 27-2s-3w, which has been producing from the Simpson between 8074 and 8089 feet since April, 1936. In October, 1935, this well had a blowout. For the past year it has had output of 500 barrels daily under proration in order for adequate tests to be made of formation pressures and ability of the formation to hold production. The other tests are now drilling to test acreage surrounding this well, which is on the same structure as the old Fox pool, whose previous production has been from sands of Pennsylvanian age.

Five offset wells are now active around the Deese sand producer of Helmerich & Payne's Graham 1, C SW SW NE 12-1n-5w, Stephens County, which got first production in June after perforating casing between 3785 and 3803 feet.

New Hughes Pool in Prospect

A possible new pool is looked for in Hughes County at W. O. Allen's Barnard 1, SWc 24-8n-8e, midway between Jefferson and Buckner. The well had Wilcox sand between 4260 and 4274 feet where it encountered a small show of oil and considerable water. Plugging back, an electrical device was run and operators found 30 feet of oil between 3380 and 3410 feet in the Cromwell sand.

Largest potential for any well in the North Wellston pool of Lincoln County was made last week by Phillips Petroleum Company's Witmer 1, NW SE NE 35-15n-2e. Potential of the well was 3376 barrels of oil for 24 hours, accompanied by 2,500,000 cubic feet of gas following acid treatment with 3000 gallons. The oil, which is 41 gravity, is coming from 5129 feet, in Wilcox sand topped at 5098 feet. Heavy dolomitic content makes acidization of the Wilcox possible in this pool. Seven-inch casing was set at 5026 feet, just above the Viola lime.

Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Arinwine 2, SE NE SE 35-15n-2e, was reported last week making 677 barrels of oil on a 24-hour test from the Wilcox sand between 5105 and 5124 feet.

South of Stroud, in the Laffoon pool, J. Garfield Buell et al's Fanguet 1, CSE SE 9-13n-6e, bailed in and showed for 2,000,000 cubic feet of gas from the Hunton lime between 4084 and 4119 feet. Tubing will be run and the well acidized in an effort to induce oil production.

Carter Oil Company's Wells 1, CE½ SE NW 30-23n-5e, a wildcat south of Ralston in Pawnee County and following what was thought to be a new Bartlesville sand trend, found water in the formation last week between 3215 and 3245 feet, and it was abandoned.

Fitts Well Makes 175 Barrels Hour

In the northeast of the Fitts field, J. Paul Getty, Inc. and Minnehoma Oil & Gas Company's Masters 7, SEc NW 23-2n-7e, was preparing to take potential after flowing 308 barrels of oil in 1¾ hours through casing and tubing. It had the Hunton lime with good saturation between 3791 and 3916 feet. Location has been made for Masters 8, NE SE NW 23-2n-7e.

Amerada Petroleum Corporation's Wooley 18, NEc 21-2n-7e, tested in the Hunton lime at 3728 feet and in four hours flowed 1240 barrels of oil through casing and tubing. Potential was being taken.

Shell Petroleum Corporation's McKinley 1, SWc NE 23-2n-7e, a recent extension well at Fitts, established a potential of 3735 barrels of oil daily, production coming from the Hunton lime.

Amerada Petroleum Corporation's Smith 10, NW SE NW 28-2n-7e, was a new producer from the Cromwell sand, flowing 113 barrels of oil in five hours. It was shut in for potential.

In the Muse sector, between Fitts and Jesse, E. H. Moore, Inc.'s Scott-Brown 1, NE SE SE 33-2n-7e, flowed 97 barels of oil in 20 hours on gas lift and natural flow. Production was from the Gilcrease sand between 1820 and 1876 feet.

Francis Oil & Gas Company's Provence 1, SW NW NW 2-1n-7e, in Jesse proper, was to be tubed and completed after making 15 barrels of oil net in 24 hours from the Gilcrease sand.

West of Fitts, C. W. Roodhouse et al's Booth 1, SE NW SE 20-2n-6e, flowed 110 barrels of oil in two hours early last week to open, officially, a new Cromwell sand pool for Pontotoc County, producing from between 3094 and 3110 feet.

A well which it is hoped will extend Jesse to the south was staked last week at Continental Oil Company's E. Brown 1, NEc NW 11-1n-7e.

A community test, to be drilled by Carter Oil Company and Gulf Oil Corporation at CE½ SE NW 1-1n-7e, will be called Thompson 1. The well is in the northeast extension of the field.

OKLAHOMA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARTER COUNTY—		
Carter Oil Co., Snider 3, nw nw sw 34-1s-3w (pb 2126) (otd 2728)...	¶50	2126
Kewanee O&G Co., Ott 6, nw ne se 4-3s-3w (pb 1085)	18	1132
CLEVELAND COUNTY—		
Sinclair Prairie, Franklin 3, ne nw se 21-10n-2w 4432		7265
Gulf Oil, James 3, ne nw sw 27-10n-2w 11,578		7294
COMANCHE COUNTY—		
Hane, Dupler 1, nw nw nw 21-2n-13w	*	200
COTTON COUNTY—		
Chamberlain, Berendzen 1, nw nw nw 14-2s-11w	*	18
CREEK COUNTY—		
Big Four Pet. Co., Smith 1, ne ne ne 13-19n-7e	75	2507
Gregg Sawyer, Jackson 2, cn½ nw se 14-19n-9e (pb 1295)	32	1300
GARVIN COUNTY—		
Petroleum Inv. Co., Harkreader 3, sw sw se 11-1n-3w	25	1592
Magnolia, Pernell 2A, se ne ne 16-1n-3w (pb 1961)	12	2863
Carter Oil Co., Wright 2, se se ne 32-1n-3w	*	3043
Skelly, Gross 1, nw ne sw 32-1n-3w (pb 2788)	185	2936
Wrightsmith Oil Co., Yates 5, nw nw sw 33-1n-3w	*	2670
GRADY COUNTY—		
John S. Graham, Thomas 1, nw ne ne 19-8n-7w	*	2037
HUGHES COUNTY—		
Winona et al, Jackson 2, sw ne nw 20-7n-8e	90	2932
Amerada et al, Chapman 1 "A" se nw nw 31-9n-9e	128	4051
JACKSON COUNTY—		
Ace Gutowsky, Booker 1, nw nw nw 33-2n-18w	*	580
JEFFERSON COUNTY—		
Bridwell Oil Co., Barnett 5, nw se ne 30-6s-5w	40	1909
Circle Oil Co., Seay 46, cel sw 3-7s-5w	130	1289
Seay 47, ne ne se nw 3-7s-5w...	20	1090
LINCOLN COUNTY—		
Sun Oil Co., Arinwine 2, ne sw se 35-15n-2e 2243		5085
Skelly Oil Co.-Sporn (west) 2, ne nw sw 21-17n-3e (pb 4615).....	80	4624
LOGAN COUNTY—		
Mid-Continent, Bulling 1, ne ne ne 5-19n-2w 3587		5045

Company, Well and Location	Init. Prod. Bbls.	Depth
MARSHALL COUNTY—		
Taylor & Stewart, Chestnut 1, ne ne ne 23-8s-5e (pb 787)	15	788
MUSKOGEE COUNTY—		
Lambert, Jefferson 2, sw nw ne 6-15n-15e	15	1315
NOBLE COUNTY—		
W. R. Curry et al, Schlopp 1, se ne se 32-20n-2w	6637	5098
Stanolind-Amerada, Johnson 1, nw nw se 4-20n-2w	*	5418
OKFUSKEE COUNTY—		
Mid-Western Chemical Rhea 1, c se se se 10-10n-9e	*	1815
Exchange Drlg. Co., Welty 1, se ne sw 29-11n-9e	*	4223
OKLAHOMA COUNTY—		
Clark Oil, Warsaske 1, cnl se sw 15-12n-3w	140	6455
Big Chief & Farris, Westgate 1 cs ¼ nw se 27-12n-3w	376	6545
OKMULGEE COUNTY—		
Iverson Tool, Stephens 2, se ne sw 8-14n-13e	*	2084
Selby, Grayson 3 "A", c nw ne 3-14n-14e	3	775
Price et al, Grayson 1-A, cne se ne 21-14n-14e	*	1220
OSAGE COUNTY—		
Texas, Gladys McComb 2, sw ne sw 1-27n-7e	68	2557
Pure Oil Co., 7, nw ne ne 19-22n-10e (pb 1887)	8	2230
Barnsdall Oil Co., 23, se nw se 18-23n-12e	42	1723
Lewis Prod. Co., 10, sw nw ne 28-24n-7e	185	2662
PONTOTOC COUNTY—		
Mid-Continent, Statler 5, sw ne sw 2-1n-7e	3677	4532
Skelly Oil Co., Akers 4, sw sw ne 36-2n-6e	2159	4057
Getty, Masters 6, ne nw sw 23-2n-7e	2779	3880
Magnolia, Burris 16 "A", nw sw nw 27-2n-7e	101	2590
Burris 17 "A", ne sw nw 27-2n-7e	115	2590
Samedan, Holkum 2A, ne sw ne 27-2n-7e	106	2600
Sinclair Prairie, Burris 19, se nw ne 27-2n-7e	199	2600
Burris 20, sw nw nw 27-2n-7e	195	2595
Moore, McKoy 2A, se ne sw 28-2n-7e	146	3492
Skelly, Park College 22, se ne nw 28-2n-7e	115	2608
Magnolia, Simpson 23, se ne nw 29-2n-7e	101	2603
Moore, Harper 8-B, ne nw ne 29-2n-7e	123	2596
Woodwarf 3, c ne nw se 29-2n-7e	454	3537
Thompson 2, se se se 33-2n-7e (pb 4490)	31	4656
Delaney et al, Starrett 1 "A", ne nw se 21-5n-5e	60	2734
POTTAWATOMIE COUNTY—		
Atlantic, Standridge 2, nw sw sw 10-7n-4e (otd 3954)	3540	3565
Gulf, Barton 2, sw ne nw 13-7n-4e	407	4177
Shell, Hines 1, ne se nw 22-7n-4e (otd 4187)	*	4187
Vierson et al, Irick 1, sw sw sw 13-11n-6e (pb 4569)	168	4603
SEMINOLE COUNTY—		
W. C. McBride Swan 1, se se nw 24-5n-5e (pb 2404)	*	3060
I. T. I. O., Mathis 1, se sw sw 13-5n-7e (pb 4272)	68	4287
Sinclair Prairie, Caesar 2, sw se sw 21-6n-6e (pb 3604)	72	3709
Manahan, Williams 1, ne sw ne 22-6n-6e	144	2340
Paul Traugh, Scroggins 2, se ne se 22-6n-6e	243	2375
Williams 3, sw se se ne¼ (pb 2368)	255	2370
Blackwell, Baker 1, sw nw se 11-7n-6e (pb 3434)	¶4½	4472
Pittsburgh P&S, Fish 3, ne sw nw 20-7n-8e	150	2910
Stanolind, C. Foster 4, ne sw sw 28-8n-8e	22	4000
Deep Rock & Atlantic, Coody 2, nw se sw 9-9n-7e	288	3471
Rodgers, Stubbs 1, nw ne sw 16-9n-7e	*	3503
Helmerick & Payne, Island 1, ne ne sw 21-9n-7e	*	3454
Sinclair Prairie, Miles 1, ne ne se 29-10n-8e	1872	4202
Pioneer, Twinam 2, nw ne ne 35-11n-6e (pb 4144)	30	4150
Texas, Wright 1, nw nw ne 32-7n-6e	288	2936
STEPHENS COUNTY—		
Wilkins, Robberson 2, se ne ne 15-2s-5w (pb 931)	8	935
Louis Sikes, Black 5, se nw nw 16-1s-8w	*	2950

*Failures; †Junked; ¶Million cu. ft. gas.

Oklahoma wildcatters start eight new tests

Tulsa.—Oklahoma reported a total of eight wildcat starts last week. Three wells were completed, one of them as a producer and two more renewed operations.

One of the leaders in interest was B. L. Maddox's Penn. Mutual Life Insurance Company 1, CS½ NE NW 5-16n-24e, which was spudding just east of Titanic in Adair County, near the Oklahoma-Arkansas line. Another try is to go down in Coal County at Phillips Petroleum Company's Beck 1, SE SW SW 6-1n-9e, a location, southeast of Tupelo and southwest of the Centrahoma play.

B. C. Edwards was rigging up rotary for Clark 1, NEc 16-3n-3e, south of Stratford and at the east edge of Garvin County. In Murray County, north of the town of Arbuckle, Meyer & Greenup's Arbuckle Royalty Company 1, NWc NE 18-2s-3e, was drilling with machine at 50 feet, and in Payne County, west of the North Ripley pool, H. L. Brim et al's McKensie 1, CNE NE 13-18n-3e, was digging cellar and pits.

A start for Seminole County was R. S. Hayes et al's Belford 1, NE SE NE 9-9n-8e, which was building rig, east of the Bethel pool about 1½ miles. Two starts for Tillman County included Gulf Oil Corporation's Prichard 1, CSE NW SE 32-3s-16w, southeast of Frederick which was a location and Indian Territory Illuminating Oil Company's W. A. Graham 1, SWc NE 1-3s-19w, also a location several miles to the southwest of Frederick.

The producing wildcat was Stewart & Taylor's Chestnut 1, NEc 23-8s-5e, south of Lark in Marshall County. It was completed for 15 barrels of oil and 30 barrels of water after plugging back to 782 feet.

The other two completions were Norbla Oil Company's Osage 1, SEc 36-23n-6e, west of the Gilliland pool in Osage County and which was abandoned at 2876 feet, and Stanolind Oil & Gas Company and Amerada Petroleum Corporation's Isabella Johnson 1, NWc SE 4-20n-2w, north of the Lucien pool of Noble County, which quit at 5418 feet.

The renewals included Jack Cohen's Pierce 1, CNE NE NW 24-2s-6w, east of the Woolsey pool in Stephens County, drilling below 404 feet, and Cavens et al's Southerland 1, SWc NW 35-4s-16w, southwest of Granfield in Tillman County, which was running surface pipe with the hole at 441 feet.

Roosevelt invites nations to attend Houston show

Washington, D. C.—Upon a resolution by the congress, introduced by Congressman Albert Thomas of Texas, the president of the United States has been authorized to and is inviting all the states of the union and all foreign countries to participate in the Oil-World Exposition at Houston, Texas, October 11 to 16, 1937, inclusive.

Invitations have been sent to Vice President John Garner and to Jesse H. Jones, chairman of the R.F.C. to act as officials at the opening of the new Jesse H. Jones auditorium and the Oil-World Exposition October 11 at 1:30 p. m.

Import Duty Lifted

The resolution providing for invitations to the states and foreign countries for the Houston show also states in part:

"All articles that shall be imported from foreign countries for the sole purpose of exhibition at the Oil-World Exposition upon which there shall be a tariff or customs duty shall be admitted free of the payment of duty, customs, or charges, under such regulations as the secretary of the treasury shall prescribe; but it shall be lawful at any time during the exhibition to sell any goods or property imported for and actually on exhibition, subject to such regulations for the security of the revenue and for the collection of import duties as the secretary of the treasury may prescribe: Provided, that all such articles when sold or withdrawn for consumption or use in the United States shall be subject to the duty, if any, imposed upon such articles by the revenue laws in force at the date of withdrawal; and on such articles which shall have suffered diminution or deterioration from incidental handling and necessary exposure, the duty, if paid, shall be assessed according to the appraised value at the time of withdrawal for consumption or use, and the penalties prescribed by law shall be enforced against any person guilty of any illegal sale, use or withdrawal.

Rodessa land sales

Washington.—A sale of oil and gas leases in the Rodessa field, Louisiana, will be held by the Geological Survey in the federal court room at Shreveport, September 3, it was announced July 30 by Secretary of the Interior Ickes.

Four leases are to be offered, it was said, comprising Unit No. 3 of 28.93 acres; Unit No. 4 of 27.96 acres; Unit No. 5 of 138.13 acres, and Unit. No. 6 of 39.95 acres.

Oklahoma City.—Properties of Fleetborn Oil Corporation in Oklahoma, Kansas, New Mexico, Texas and Louisiana have been sold to Crusaders Petroleum, Inc., with headquarters here. The announcement by R. W. Wilson, president of the purchasing company, was that the transaction involved more than $5,000,000. One of the major properties in the deal is in the Fitts pool near Ada, where D. F. Fleet and W. B. Osborn, organizers of the Fleetborn Oil Company, live.

Bismarck, N. D.—Union Oil & Gas Development Company, Williston, was organized last week with filing of articles of incorporation with Secretary of State James D. Gronna. The company, which was capitalized at $25,000, will operate in the Nesson Valley flats area in northwestern North Dakota where a seismograph crew is conducting a survey for Standard Oil Company of California.

Organizers of the company are W. H. Westergaard, F. P. Bergman, C. O. Sletten, Dr. H. T. Skovholt and E. A. Sorben, all of Williston, and Ole Berg, Watford City.

KANSAS FIELDS

Wide extension at Ellingwood seems assured.

* * *

Geneseo and Shutts pools extend production.

* * *

Wildcats make one oil and one gas producer.

Wichita.—Reports from nearly all parts of Kansas were good last week, a host of good producers coming from nearly every sector of the state. The possibility of a long extension for the Ellinwood pool of Barton County appeared good and extensions were had in the Geneseo and Shutts pools.

The Barton County well was Helmerich & Payne et al's Sessler 1, SWc SE 29-20s-11w, which recovered a saturated core from the Siliceous lime between 3401 and 3409 feet. Top of the formation was found at 3381 feet. Casing will be run to 3382 feet preparatory to rigging up standard tools and drilling in. The test is 5 miles southeast of Ellinwood.

The Geneseo pool of Rice County was extended a half mile south last week by Continent Oil Company's Werner 1, Section 6-19s-7w, which pumped 1627 barrels of oil in 24 hours following acidization of Siliceous lime with 4000 gallons.

Shutts Pool Extended

An east extension of the Shutts pool of Ellis County was completed by Deal Drilling Company's Bemis 1, Section 4-12s-17w, which made a potential of 1100 barrels of oil from 3572 feet in the Siliceous lime, following acidization with 2000 gallons. Before being acidized, the well had made only 1 barrel of oil per hour.

What looks like a big well for Russell County is Mid-Continent Petroleum Corporation's Letsch 1, SWc NW 26-14s-13w, which was running tubing, preparatory to acidizing. Top of the Kansas City lime was found at 2850 feet and slight saturation was found from 2855 to 2858 feet. Seven-inch casing was set at 2851 feet and when drilled to 2895 feet, the hole filled 1800 feet with oil in 16 hours.

Potential was to have been started July 29 at Carter Oil Company's Karlin 1, NEc 1-12s-18w, in the Marshall area of Ellis County. Acidized with 5000 gallons at 3691 feet in the Siliceous lime, the well pumped 40 barrels of oil the first hour, 47 the second hour and 45 the third hour.

The fourth test to find commercial production in the Shallow Water pool of Scott County apparently will be completed as a big producer. It is Atlantic Refining Company's Pile 1, Section 24-20s-33w. The hole filled approximately 2000 feet with oil after the plug was drilled at 4653 feet in the Mississippi lime. Production test was scheduled for the immediate future.

Gulf Oil Corporation's Lyon 1, NWc NE NE 18-20s-9w, at the south end of the Chase pool of Rice County and which was originally drilled as a salt water disposal well, was completed for 978 barrels of oil from the Siliceous lime, production coming from around 3308 feet.

Carter Oil Company's Krautwurst 1, NE SE NW 10-17s-11w, southwest diagonal offset to the discovery producer in the Kraft pool of Barton County, was completed for 1104 barrels of oil from the Siliceous lime at 3321 feet following acidization.

A well which may determine the trend of the big Bloomer pool of Barton County is Republican Natural Gas Company's Bloomer 1, NE NW NW 14-17s-11w, a wildcat one mile south of production in the Kraft pool. There is one dry hole between the test and the Bloomer pool to the southeast.

Amerada Petroleum Corporation's Hadley 1, SWc 31-11s-17w, in the Marshall area of Ellis County, swabbed 168 barrels of oil in 5 hours following acidization with 8500 gallons in the Siliceous lime. It was at a total depth of 3637 feet.

E. B. Shawver's Neel 4, SEc 29-31s-1w, at the northwest edge of the Wellington pool of Sumner County, was making an estimated 60 barrels of oil natural from the chat at 3707 feet. It was to be acidized.

A new producer for the old Eastborough pool of Sedgwick County was Magnolia Petroleum Company's Vickers 4, SWc NW 20-27s-2e. During a 24-hour pumping test from the chat at 2946 feet, the well made 100 barrels of oil.

Morgan & Flynn's Korial 1-A, CNW 23-18s-16w, which found oil in the Otis

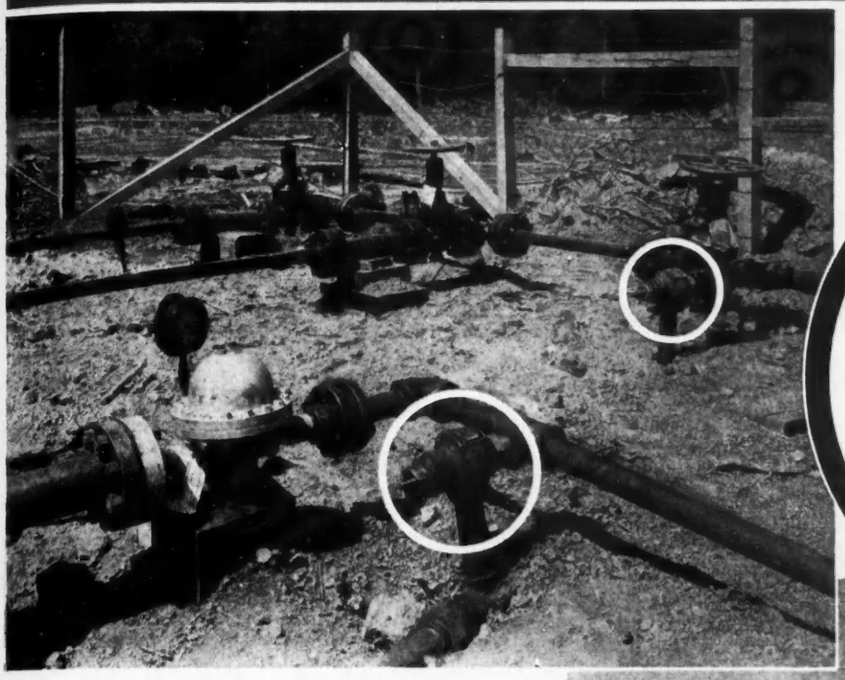
KANSAS

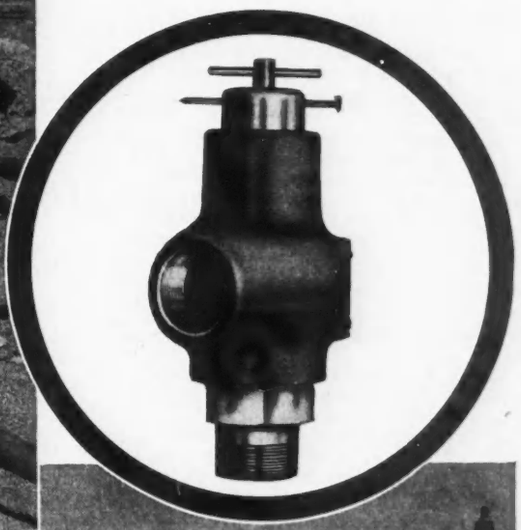
Completions

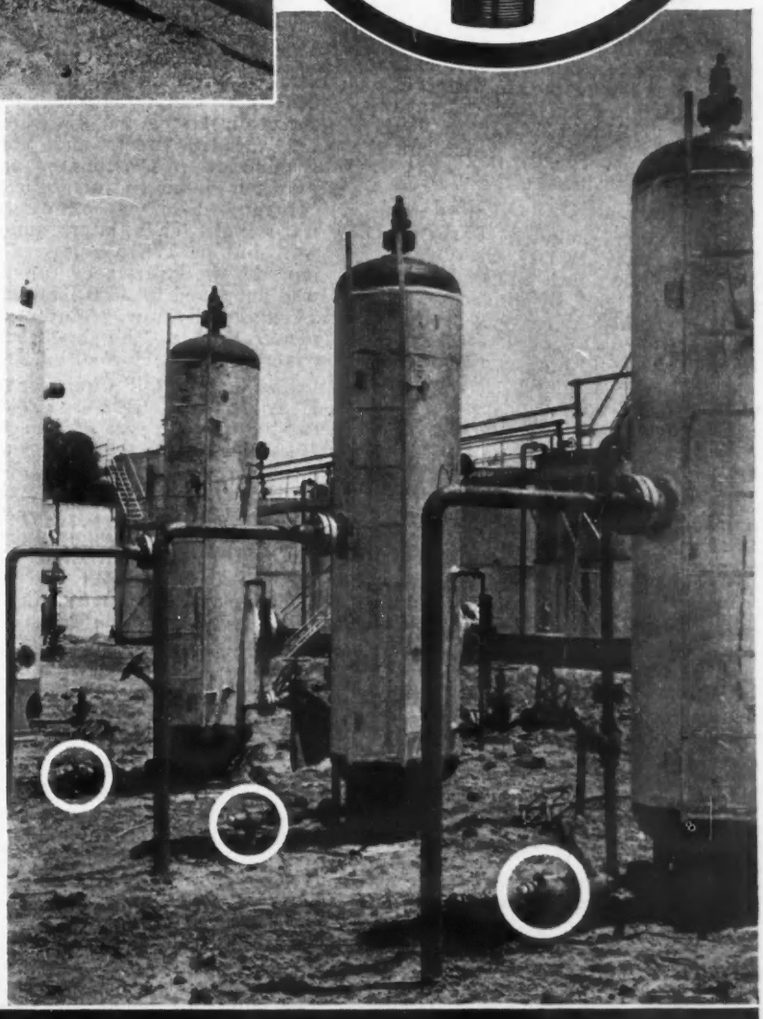
Company, Well and Location	Init. Prod. Bbls.	Depth
BARBER COUNTY—		
Barbara Oil Co., B. E. Holmes 1D, cnw nw 27-33s-13w	¶20	4829
BARTON COUNTY—		
Empire, Demil 4, se sw sw 9-16s-13w	332	3399
Continental, Ainsworth 4, se ne ne 33-16s-13w	1364	3402
Davis et al, Steckel 10, ne sw se 1-20s-11w	912	3267
Gulf, Sessler 2, ne ne sw 24-20s-11w	1710	3254
Magnolia, Roetzel, se sw ne 24-20s-11w	1670	3260
BUTLER COUNTY—		
Phillips, Ram 11, csw se 20-23s-4e	36	2093
Simpson Oil, Dennis 1, ne ne sw 15-26s-6e	*	3282
Saco Oil Co. et al, Diller 1, ne ne sw 27-29s-5e	*	2856
CHAUTAUQUA COUNTY—		
Shaffer-Howe, Landon-Floyd 2, se ne sw 23-32s-10e	304	1935
Wallis et al, Shouse 1, sw sw ne 2-32s-12e	¾	606
Olson Oil & Drlg. Co., Holroyd 1, ne ne sw 24-33s-10e (pb 2009)	30	2205
COFFEY COUNTY—		
Gillespie et al, Shotwell 1, se sw se 14-23s-14e	20	1639
Blair et al, Miller 1, ne nw sw 14-32s-5e (pb 3105)	*	3145
ELLIS COUNTY—		
Lario, Hug Cress 2, se ne ne 13-11s-17w	2184	3293
Empire, Bemis 7, sw ne se 21-11s-17w	1710	340
Magnolia, Johansen 1, sw nw se 22-11s-17w	1570	3436
York State, Bemis 1, ne ne sw 28-11s-17w	1108	3489
Twin Drlg. Madden Estate 1, se se ne 29-11s-17w	1337	3548
Lario O&G, Marshall 4, se se se 36-11s-18w	2927	3676
Twin Drlg. Co., Korlin 1, ne nw se 6-12s-17w	1632	3671
GREENWOOD COUNTY—		
Superior O&G, Jones 12, ne se sw 21-23s-13e	30	1707
Landon et al, Webber 5, cnw se 9-25s-13w	25	1564
McPHERSON COUNTY—		
Dickey, Tull 5, nw ne sw 13-19s-3w	192	2346
RENO COUNTY—		
Phillips, Astle Island 2, se ne ne 14-24s-4w	37	3391
RICE COUNTY—		
Continental, Powell 1, sw se sw 31-18s-7w	933	3330
Transwestern Oil, Clare 2, nw se nw 4-18s-10w	426	3280
Skiles et al, Helmer 1, nw nw ne 7-19s-8w	*	3460
Comanche Oil Co., Cramm 1, sw sw se 15-19s-9w	1719	2947
Rose & Sons, Callis 2, sw sw se sw 32-19s-9w	664	3238
Carter, Risse 2, sw sw sw 33-19s-10w	1122	3311
Shell, Hathaway 2, nw sw ne 33-19s-10w	1172	3331
Hipple et al, Wernet 1, ne ne nw 11-20s-6w	*	3688
Tatlock, Stueder 1, nw nw se 5-20s-10w	1074	3340
ROOKS COUNTY—		
Green Oil, Baxa 1, sw sw nw 12-9s-17w	1110	3255
RUSSELL COUNTY—		
Phillips, Carroll 1, se se se 18-14s-14w	1291	3030
National Ref., Reinhardt 1, ne ne ne 19-14s-14w	1439	3023
Empire, Strecker "A", nw sw ne 35-14s-14w	1880	3168
Gulf, Hoffman 7, sw ne sw 31-15s-13w	1845	3261
Phillips, Hoffman 12, ne se se 31-15s-13w	1879	3354
Gulf, Michaelis 8, nw sw sw 33-15s-13w	1517	3354
Mollie 2, ne se se 25-15s-14w	965	3308
SEDGWICK COUNTY—		
Prunty Prod. Co., Black 1, se se nw 16-25s-6e	1124	3338
STAFFORD COUNTY—		
Stanolind, Komarak 6, se se ne 30-27s-11w	1709	3570
SUMNER COUNTY—		
Transwestern & Darbb, McKee 2, ne ne se 5-32s-1w	140	3703
WOODSON COUNTY—		
Oko Oil Co., Bahr 9, cse nw 23-23s-13e	80	1772
Nye-Kilb, Shaffer 2, ne se se sw 31-23s-14e	90	1741
B&B Oil Co., Lockhard 1, nw nw ne 2-26s-13e	*	1444

*Failures; †Junked; ¶Million cu. ft. gas.

Protecting Flow-Line System







With
SHEAR-RELIEF *Valves*

The safe protection provided for years to drilling equipment by the SHEAR-RELIEF Valve is now available to the production department.

Here is an example of positive protection to flow-line fittings and separators when well pressure is abnormally high. Tubing pressure at surface on this well is 3750 pounds. Production is through a series of chokes, reducing the well pressure to the desired flow-line pressure. The SHEAR-RELIEF Valve is placed in the flow-line and is set to shear the nail at slightly above flow-line pressure. The SHEAR-RELIEF Valve is protected against possible freezing when it opens, by placing a choke in its discharge line.

Should the chokes cut out, or should the separator freeze up, the well pressure can build up on the flow-line only to the set point of the SHEAR-RELIEF Valve, when the nail will shear and relieve excess pressure. There is no leak of oil or gas around the stem of the SHEAR-RELIEF Valve when it opens and is functioning to relieve flow-line pressure.

SHEAR-RELIEF Valves are in universal use on slush pumps and pumps for low pressure service.

Note (above) SHEAR-RELIEF Valves near well location, and (right) near separator input. Inset shows simplicity of the SHEAR-RELIEF Valve.

FLUID-PISTON SLUSH PUMPS
ABERCROMBIE PUMP CO.
GULF BLDG. HOUSTON TEX.

SHEAR-RELIEF VALVE

gas and oil pool of Rush County two weeks ago, was completed for potential of 1587 barrels of oil and 25,000,000 cubic feet of gas. Production was from what is known as the Otis sand, between 3516 and 3551 feet. No water was showing with the producion.

Two Kansas wildcats completed as producers

Wichita.—Wildcat operations in Kansas steadied last week, with only four starts being reported. Two wildcats were completed as producers and six were abandoned. Renewal tickets were sent in on two others.

Logan County had the most important start of the lot, a well to be drilled by Morgan, Flynn, Cobb and others, McMillan 1, CNW¼ 9-13s-37w, which was a location several miles south of McAllaster. It is on a structure mapped by W. J. Miller and O. E. Stoner, Tulsa geologists who have an interest in the test.

Pryor & Lockhart et al's Stuckey 1, NW SW SW 31-25s-5w, was a location several miles southwest of the Yoder pool of Reno County, which produces both oil and gas. In Stafford County, Ward McGinnis et al's Smith & Jones 1, NWc SE 10-24s-13w, was a location, midway between the St. John pool and the town of that name. In Trego County, Phillips Petroleum Company's Trego 1, CSE NW 14-12s-23w, was a location six miles due south of the Wakeeney pool.

One Gas, One Oil Well

Completions included Barbara Oil Company's Holmes 1-27, CNW NW 27-33s-13w, at the south end of the Medicine Lodge pool of Barber County, which was finished for gas production of 20,250,000 cubic feet. The other completion, in Rice County, was Comanche Oil Company's Cramm 1, SWc SE 15-19s-9w, at the north end of the Chase pool, which made 851 barrels of oil in 11½ hours to establish a potential of 1719 barrels of oil.

Following are the wells which were finally listed as failures: In Butler County, Simpson Oil Company et al's Dennis 1-A, NEc SW 15-26s-6e, southwest of Pontiac pool, abandoned at 3108 feet. Three miles west of the Fox-Bush pool, Maurer & Saco Oil Company's Connell 1, NEc SW 27-29s-5e, was abandoned at 2856 feet.

In Cowley County, B. B. Blair, Continental Oil Company and McKnab's Miller 1, NE NW SW 14-32s-5e, east of the Tisdale gas pool, went to 3145 feet. In Rice County, C. E. W. Skiles et al's Helmer 1, NWc NE 7-19s-8w, northeast of Chase pool, went to 3460 feet and was to be plugged and Hipple et al's Wernett 1, NEc NW 11-20s-6w, in rank wildcat territory east of Lyons, abandoned at 3688 feet. Failure for a Woodson County test was reported at B & B Oil Company's Lockard 1, NWc NE 2-26s-13e, just north of the Toronto pool. It was plugged at 1444 feet.

Operations were renewed at Graham et al's Fike 1, SWc 9-9s-17w, southeast of the Dopita pool in Rooks County. At 3326 feet, the well had 1700 feet of water in the hole along with 900 feet of oil. The other renewal was Miller & Morton et al's Meade 1, SEc NW 33-25s-16w, which was building rotary rig, north of Trousdale in Edwards County.

Workover makes big well at Monument.

* * *

Lea wildcats have adverse showings.

Hobbs, N. M.—Development of a heavy flow of oil and gas from a worked-over well in the Monument field, and adverse showing of several semi-wildcat projects were credited to Lea County the past week.

Continental Oil Company's State 1-C-16, C SW NW 16-20s-37e, near southeast edge of the Monument area, gauged 150 barrels oil in 15 minutes through open 5½-inch casing when deepened to 3855 feet, or 317 feet subsea. Gas volume was rated at 50,000,000 feet daily. This well attracted attention last April 15 when it blew out at 3809 feet, and caught fire. Production was estimated at 600 barrels per hour by an official of the company. Fire was extinguished with nitro eight days later, and the well was shut in. When equipped with tubing, the well produced mostly gas. It was deepened to 3830 feet, resulting in a small oil flow. Additional 25-foot penetration of the lime section uncovered the big flow of oil.

Continental Oil Company et al's E. H. Ailes 1-A, C SE SE 35-20s-38e, wildcat in the east part of the county and 2¾ miles northwest of a small wildcat producer on the Parcell permit, was drilling at 4640 feet, or 1083 feet below sea level, and has apparently missed the projected producing horizon. The same group's W. A. Cline 1-A, C NE NW 15-23s-37e, about one mile south of sandy-lime production in the Skelly field, developed hole full of water in lime at 3850-58 feet, with an elevation of 3293 feet, and has plugged back to 3800 feet to shoot nominal oil and gas showings logged below 3665 feet.

Penrose Outpost Fails

Search for production from the lime horizon on the south end of the Penrose sandy-lime field undertaken by Repollo Oil Company's A. L. Christmas 2, NE SE NE 28-22s-37e, met with disappointment when water was encountered at 4073 feet. The hole has been plugged back to 4010 feet to shoot oil showings logged below 3622 feet. This area added two of the nine new locations authorized for Lea County. Skelly Oil Company has started operations on J. V. Baker 5, C SE NW 27-22s-37e, and Continental Oil Company et al awarded contract for the drilling of Elliott 2-A-15, C SW SE 15-22s-37e.

Operations on the north end of the Monument field expanded to the west through the location of The Texas Company's B. M. Keohane 1-B, C NW NE 18-19s-37e. It offsets a recent completion by the company. Gulf Oil Corporation's State-Graham 2-G, C NW SE 17-19s-37e, northeast outpost, failed to make its allowable after using acid twice at 3990 feet, or 324 feet sub sea, and prepared to deepen 20 feet. Stanolind Oil & Gas Company's Gilluly 4-A, C NW NE 24-20s-36e, offsetting production on the southwest edge, used 3000 gallons of acid at 3875 feet, and flowed 15 barrels per hour then made 5,000,000 feet of gas daily without oil. Tubing packer will be installed. Tide Water Associated Oil Company has made location for State 2-K, C SE SW 13-20s-36e. The Texas Company's State-Lieu-Lands 11, C NW NW 20-20s-37e, located on south line of production, is listed as a late completion with an initial flow of 90 barrels daily. Lime at 3840-67 feet was treated five times with acid and also shot with nitro.

Eventual linking of the Cooper and Lynn lime fields become more remote when Continental Oil Company et al's M. B. Stevens 1-A-34, C SW NW 34-23s-36e, encountered sulphur water in drilling to 3691 feet, with an elevation

NEW MEXICO
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
LEA COUNTY (Eunice)—		
Gulf, M. Campbell 4, c nw sw 7-21s-36e	17	3900
H. C. Collins 5	*	3865
LEA COUNTY (Lynn)—		
Continental et al, I. C. Farney 2-A-5, c ne se 5-23s-36e	200	3796
LEA COUNTY (Mattix)—		
Humble, K. Williams 1, c se ne 34-24s-37e	306	3535
Schermerhorn Oil Corp., E. Woolworth 1, c nw ne 28-24s-37e	3000	3477
LEA COUNTY (Monument)—		
Repollo, W. P. Byrd 6, ne nw sw 11-20s-36e	1200	3894
Texas Co., B. M. Keohane 1, c ne ne 18-19s-37e	3000	4020
State-Lieu Lands 11, c nw nw 20-20s-37e	90	3867
Tide Water Associated, State 1-K, c ne sw 13-20s-36e	1800	3878
LEA COUNTY (Penrose)—		
Tide Water Associated, A. Walden 3, c nw ne 21-22s-37e	30	3615
LEA COUNTY (Skelly)—		
Skelly, H. O. Simms 3, c sw nw 3-23s-37e	144	3620

*Failures; †Junked; ¶Million cu. ft. gas.

of 3417 feet. Formation tester set at 3616 feet showed a small amount of oil with gas.

Eunice field gained three new projects the past week, including Stanolind Oil & Gas Company's State 1, C SE SE 2-21s-36e, and State 2, a west offset. Empire Oil & Refining Company made location for Closson 5, C NW NE 6-22s-36e.

In the Langlie area, E. J. Bradley et al have moved in rig to drill C. J. Lanehart 1, C SW NE 28-25s-37e. Contract was awarded last week by Continental Oil Company et al's to drill W. C. Hawks 1-A-5, C NW SE 5-21-37e, offsetting production in the north extension of the Hardy field.

Stanolind Oil & Gas Company's O. B. Terry 8, C NW SE 9-19s-38e, Hobbs field, failed to make its allowable when tested at 4163 feet, and when deepened to 4186 feet swabbed 20 barrels fluid per hour. The well was treated with 4000 gallons of acid at the latter depth, and flowed by heads. It is making a little water.

WEST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANDREWS COUNTY (Wildcat)—		
Empire, J. D. Biles 1	*	5010
CRANE COUNTY (Jordan)—		
Sinclair Prairie, University 1, lse 23	183	3589
CRANE COUNTY (McCamey)—		
Bert Fields et al, A. Gibbs-Conoco 8	779	2269
A. Gibbs-Conoco 9	779	2296
CRANE COUNTY (Waddell)—		
Gulf, W. N. Waddell 18	6512	4509
ECTOR COUNTY (Judkins)—		
Texas Co., W. E. Connell 16	458	3660
ECTOR COUNTY (Foster)—		
Broderick & Calvert, Inc., H. C. Foster 6	601	4269
York & Harper, Inc.-Sloan-Zook Co., Bagley 1	534	4320
ECTOR COUNTY (Goldsmith)—		
American Maracaibo Co., C. Scharbauer 4-A	694	4232
Atlantic, W. F. Cowden 7	750	4255
W. F. Cowden 8	1180	4250
H. E. Cummins 4-C	264	4238
W. H. Dunning Est., C. Scharbauer 5	1055	4232
Gulf, Goldsmith 26	2048	4230
Goldsmith 28	560	4200
John E. Mabee & Blackstock, Cummins 3	825	4265
Manson Oil Co., H. E. Cummins 4	353	4250
Shasta Oil Co.-Cordova Union Oil Corp., Scharbauer 3	†	3970
Shell, H. E. Cummins 3-B	65	4256
T. P. Land Trust 3-A	492	4265
ECTOR COUNTY (Harper)—		
Amtex Pet. Corp., E. F. Cowden 2	401	4262
ECTOR COUNTY (North Cowden)—		
Alma Oil Co., T. P. Land Trust 4	500	4200
FISHER COUNTY (Wildcat)—		
Snowden & McSweeney Co., W. F. Kirkpatrick 1	*	3176
GARZA COUNTY (Post)—		
Grisham-Hunter Corp., Post Est. 1	*	2922
HOWARD COUNTY—		
Illinois Oil Co., R. Lane 4	941	2833
Standard (Tex.), G. M. Dodge 8	211	2800
Superior, D. Roberts 36-B	366	1387
JONES COUNTY—		
Fain-McGaha Oil Corp., Claud Lewis 2	157	1944
Guitar Trust Estate, Fee 3	700	2007
Owens-Snebold Oil Corp., J. L. Herndon 1	*	2745
Pet. Producers Co., H. C. Harvey 3	150	1992
Ungren & Frazier, Shipley 1	281	2010
PECOS COUNTY (Masterson)—		
Arthur Adams et al, J. Masterson 5	181	1487
PECOS COUNTY (Pecos Valley)—		
United Oil & Mining Co.-W. R. Jones-Selzer 4	30	1867

Wasson area extended three miles northeast.

* * *

Indicates field to cover a large region.

Midland.—Three-mile northeast extension for the Wasson area, Gaines County, was attained last mid-week when Amon G. Carter and Continental Oil Company's G. M. Langdon 1, SE SE SW PSL Section 44, Block A-X, swabbed 10 barrels hourly from saturated lime section at 4894-4943 feet. This outpost provided a surprise development in showing for a commercial producer at 1396 feet below sea level, or 14 feet above the sub-sea depth of the same operators' discovery well on the A. L. Wasson tract. Langdon 1 logged top of lime at 3980 feet, or 152 feet lower structurally than the same marker logged by Wasson 1. However, formation samples were not as accurate on the latter, and may be subject to revision. Encouraged by the showing made by Langdon 1, owners elected to try for flowing production, and were coring at 4958 feet late last week.

Company, Well and Location	Init. Prod. Bbls.	Depth
PECOS COUNTY (Yates)—		
Cardinal Oil Co., Tippett 1-M	180	1370
Ohio, Smith-Taylor 3-B	46,464	1730
I. G. Yates 16-G	5100	1376
UPTON COUNTY (McCamey)—		
Atlantic, M. Shirk 4	420	2510
Blaine Oil Co., M. C. Powell 2	1045	2732
Cordova Union Oil Corp., Fee 7-A	130	2067
A. D. Devore-J. R. Minnich, Burleson-Conoco 3	987	2155
A. R. Eppenauer et al, Lane-Pure 5-A	816	2100
Humble, A. A. Reese 8	260	2640
Magnolia, E. S. Hughes 8	133	2304
Powell Gap Oil Co., J. F. Lane	636	2191
Texas Co., R. King 31	293	2239
Weekley Oil Corp., Cordova Union 4	350	2065
WARD COUNTY—		
Atlantic-Standard Oil Co., University 4-B	980	2770
FHE Oil Co., Green-Sun 6	822	2450
Hadlock & McFarlane, Allen 1	70	2223
C. S. Messinger et al (was Hankinson et al), Emory 1	18	2292
Roeser-Pendleton, Inc.-Oil States Explo. Co., Johnson 1	50	2261
Stanolind, E. H. Brown 2	271	2400
Standard (Tex.), McFarland 13, Sec. 37	1516	2660
Joe A. Worsham et al, Carr 2	*	2319
WINKLER COUNTY (Emperor)—		
Humble, Brown-Altman 1	¶8	3100
WINKLER COUNTY (Halley)—		
Sun, S. M. Halley 8	152	2845
WINKLER COUNTY (Kermit)—		
H. Adams-Hitchcock & Bradley, Walton 4-A	2194	3089
Bert Fields et al, O. Clapp-Pure 15	2033	3115
Gulf, Daugherty 49	1297	3020
Herbert Oil Co., Ida Hendrick 5	769	3145
Humble, N. R. Colby 20-A	745	3120
Navarro Oil Co., R. Clapp 3	867	3100
Skelly, Daugherty 4	463	3010
T. P. Coal & Oil Co., W. E. Baird 1	1327	3060
WINKLER COUNTY (Keystone)—		
A. G. Carter et al, Walton-Pure 7	150	3381
The Falcon Co., McCutcheon-Humble 16	250	3400
YOAKUM COUNTY—		
Magnolia et al, M. E. Taylor 1	*	5292

*Failures; †Junked; ¶Million cu. ft. gas.

Wasson to Be Big Field

Supported by geophysical surveys and geological markers logged by the 7 tests under way between and some distance removed from the two producers, the Wasson field is destined to become one of the largest producing areas in the Permian. It is also due to become a major drilling center. In the event the pending tests prove to be commercial producers, then the 9 wells will require 19 additional progressive offsets. Four of the active tests have progressed beyond the 4300-foot level, and will be at a decisive depth within 10 days. Amerada Petroleum Corporation's F. Matthews 1, NE NE NE Section 417, about 1¼ miles southwest of Wasson 1, logged top of brown lime at 3930 feet, or 373 feet sub-sea, and has cemented 7-inch at 4773 feet. It will be drilled in with rotary.

Yoakum County has 3 interesting tests under way along a northwest production trend from the Wasson area. The Texas Company's Walker 1, C SE SE Section 794, Block D, about 8½ miles northwest of Wasson 1, is changing to cable tools after cementing 7-inch at 4650 feet. Denver Producing & Refining Company's Whittenburg 1, C NW NW Section 831, about 6¼ miles northwest of the producer, was drilling at 4300 feet, having topped anhydrite at 2170 feet, with an elevation of 3616 feet. Bohago Oil Corporation and Bond Oil Corporation's West 1, C SE NW Section 606, Block D, logged slight stain in lime at 4965-5013 feet, and was coring at 5020 feet.

Continental Oil Company's Jones 1, C SE NE PSL Section 22, Block A-7, northwestern Gaines County wildcat, deepened to 5040 feet, or 1390 feet subsea, and was making another production test late last week. The well swabbed 53 barrels oil in 9 hours on the last test before deepening from 4959 feet, where it was treated with 1000 gallons of acid. Argo Oil Cor-

poration's Jones 1, located 4¼ miles to the northeast, was drilling at 4680 feet, with an elevation of 3669 feet. It is higher on structure.

Second Cochran Well

Second oil producer for the Duggan area, southeastern Cochran County, was in process of completion late last week. M. S. Ingleright and E. E. Fogelson's Tarver-Duggan 1 located 660 feet out of the NEc of Labor 14, League 55, about ⅜ mile northwest of the discovery well, encountered first oil saturation at 5003 feet, with an elevation of 3690 feet. The hole was filling with oil in drilling to 5050 feet with cable tools. Independents predominate as lease owners in this area, and have deferred development because of the absence of pipe line or rail transportation. Wiggins, Hyde et al's Dean-Slaughter 1, Labor 26, League 92, about 4 miles northwest of the Duggan pool discovery well, logged first lime stringer at 4200 feet, with an elevation of 3730 feet, and was due to reach the casing point late last week. It will change to cable tools to complete.

Small oil yield developed by Amerada Petroleum Corporation's Littman 1, C NW NW PSL Section 6, Block A-29, northwestern Andrews County wildcat, after using acid twice in lime at 4316-56 feet, has been passed up. The hole has been deepened to 4780 feet, and will be carried to the water level, then abandoned unless a lower oil zone is encountered. This wildcat is about 2 miles east of a small oil producer in New Mexico. American Liberty Oil Company's E. P. Cowden 1, C NE NW PSL Section 14, Block A-55, southwestern Andrews County wildcat, logged oil stain in lime at 4415-30 feet and was coring. Failures of the north, south and southwest afford excellent subsurface control of the area. Sinclair Prairie Oil Company's Emma Cowden 2, NEc T&P Section 11, Block 44, near center of south line of Andrews County, drilled into water at 4354 feet, or 1197 feet below sea level. It is showing a small amount of free oil from above, or about the same caliber well as the company's abandoned pumper about 1 mile to the southeast.

To Test Lynn County

Lynn County is slated to receive several wildcat projects. Dean Nowlin of Tahoka and associates have sold spreads to Magnolia Petroleum Company, Honolulu Oil Corporation and The Texas Company at $12.50 per acre against the drilling of a 5500-foot test near C SW¼ HE&WT Ry. Section 151, Block 12. Sun Oil Company has pledged a dry hole contribution. Nowlin et al have a block of about 5000 acres. O. C. Collins, Fort Worth, et al are assembling a big block around Section 423, EL&RR Co. Survey, Block 9 with a 6000-foot contract.

Completion of C. H. Mahres, Kenneth Slack et al's Pat Wilson 1, prospective Delaware lime producer for southwestern Ward County, was in progress last week after control of the test and about 900 acres was acquired by Bells-Wells Oil Company, Frank T. Pickrell et al for $36,000 cash and a large oil payment. This wildcat made gas and sprayed oil from sand section at 5083-85 feet last June, and recently cemented 5-inch pipe at 3864 feet. Plugs were drilled last week, and the well bails a small amount of high gravity oil and an undetermined amount of salt water. Top of Delaware lime was logged at 5036 feet, with an elevation of 2667 feet. This wildcat is located in H&TC Section 133, Block 34, about 3½ miles southeast of a failure that showed oil in Delaware.

Continental Oil Company has rigged up to drill a Delaware test on the E. C. Marrs-Bell tract, near SE SE NW of T&P Ry. Section 20, Block 54, Township 2, Loving County, and on a trend between the Wheat and Mason fields. Cash bonus of $15,000 was paid last June for lease on 5600-acre block that supports this test.

TEXAS PANHANDLE
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARSON COUNTY—		
Empire, W. H. Fuqua 5	¶20	2976
Magnolia, Fee 27, lse 244	366	3000
United Crude Oil Co., A. Cooper 2-A	914	3173
GRAY COUNTY—		
Bradshaw O&G Co., M. S. Arnold 5	736	3282
Danciger, E. G. Barrett 15	918	3304
W. J. Moran et al, L. Holmes 5	487	3246
Shell, T. B. Haggard 7	501	3300
Texas Co., M. B. Davis 12	168	2743
A. E. Gethings 3	254	2858
HUTCHINSON COUNTY—		
Martex Pet. Co., Pitcher 3-A	346	3187
Phillips, Cockrell Ranch 23	589	3061
Skelly, E. E. Watkins 7	611	2892
WINKLER COUNTY—		
Remo Roy. Co.-H. Axelrod, J. B. Harvey 1	*	2336

*Failures; †Junked; ¶Million cu. ft. gas.

NORTH TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
Bridwell Oil Co., Oil Inv. Co. 1-E, blk 125	*	2825
Deep Oil Dev. Co.-Lindsey Drlg. Co., Wilson 21, sec 75	500	2263
S. & H. Drlg. Co., C. A. Mangold 2, blk 21	8	660
G. J. Scholl et al, C. Cowan 4, blk 6	*	1071
J. G. Steele et al, J. R. Garvey 1, sec 1855	114	759
Underwood Drlg. Co. et al, R. Campbell 18-B, sec 1377	*	991
R. Campbell 19-B, sec 1377	*	976
Wo-Mac Oil Co., B. C. Andrews 2	*	964
CLAY COUNTY—		
F. H. Gohlke et al, Sam Householder 1, lot 13	*	225
COOKE COUNTY—		
Gill et al, Witherspoon 1	*	756
F. M. Merrick, Inc., G. A. Stelzer 4-C	8	880
JACK COUNTY—		
Frank W. Bennett et al, Emanuel & Cohen 1	¶1	3205
Brazos River Gas Co., G. R. Clayton 2	60	2948
Cockburn Oil Corp., R. R. Clayton 1-A	397	3067
Edwards, Knowles & Crespi, C. C. Chambers 1	40	3010
Everts Drlg. Co., D. M. Shown 1, sec 833	*	4350
Lion Oil Ref. Co., Sam Newman 1	*	3485
Mar-Tex Oil Co., S. M. Jones 5	95	3100
MONTAGUE COUNTY—		
Continental, N. J. Howard 35	18	1005
Gibson & Jennings, Inc. - Sinclair Prairie, D. T. Holt 14, blk 45	275	1743
D. T. Holt 15, blk 45	262	1766
Gulf, Jones 9-B	*	827
WICHITA COUNTY—		
Cable Oil Co., J. E. Roller 26	*	300
J. E. Roller 27	3	184
Deep Oil Dev. Co., 1st Nat'l Bank 2, blk 29	700	3875
Deka Oil Co., M. A. Love 1	15	500
W. F. Houston et al, Noble Gray 9	*	441
Jennings Drlg. Co., G. Jennings 5-A	7	961
Jones & Hammer, L. F. Ramming 1	*	1710
King Oil Co., M. M. Stone 3-B	*	912
Peterson & McCarty, J. N. George 1, sec 1	*	938
J. L. Swanner et al, Williams-Parker 23, sec 3	*	761
WILBARGER COUNTY—		
J. B. Baker, Jr. et al, Waggoner Est. 1-H	*	1977
King Oil Co., Waggoner Est. 22-C	10	1123
Lawson & Leavell, Waggoner Est. 12, sec 109	114	1641
Waggoner Ref. Co., Waggoner Est. 9-CC	10	1112
YOUNG COUNTY—		
S. S. Alexander et al, L. D. Clark 7, sec 209	*	858
Cable Oil Co., L. A. Snider 36	4	611
Christie Bros. et al, Sam Fitzgerald 1	106	3819
W. L. Forbess, Tr., A. C. Casey 1, sec 1486	*	654
N. D. Goldsmith et al, A. Beardon 5, sec 2	*	1111
Thos. D. Humphrey et al, R. W. Easterling 1, sec 445	1080	3936
Thos. A. Jirik et al, R. J. McCloud 3, sec 1395	*	890
D. L. Wolfe et al, J. H. Wilson 1, sec 67	23	1089

*Failures; †Junked; ¶Million cu. ft. gas.

Desdemona test headed for Ellenberger formation

Breckenridge, Texas.—N. D. Gallagher & Lawson's Mrs. B. I. Terry 1, which is seeking production from the Ellenberger lime in the old Desdemona field, was drilling in white lime at 3800 feet, carrying gas showings from the 2900-foot zone. This field is virtually depleted of oil and gas production from the upper lime, and is receiving its first deep test. Terry 1 is about ½ mile south of Desdemona, and near NEc of 53-acre lease, N. H. Kuykendall Survey. Owners are contracted to drill to 5500 feet, and have been unusually successful in selling protection; with one major spending $15,000.

Humble Oil & Refining Company and Pitzer & West's G. T. DeLafosse 4, fourth Ellenberger lime test for their 6500-acre block in eastern Shackelford County, is changing to cable tools after cementing 7-inch at 4350 feet.

Fisher well flows 180 barrels per hour

Abilene, Texas.—Southern Oil Corporation of America's Robinson 1, discovery well of the Robinson pool near Rhotan, Fisher County, tested through 7-inch casing July 29 and flowed 180 barrels the first hour, and shut in to run tubing for potential gauge. This wildcat was drilled in May 15 and after producing for a week from lime at 3510-13 feet was killed to case off about 300 feet of open hole. The well is expected to make a sustained flow of about 2400 barrels daily, according to Sam Yingling, president.

Tide Water Associated Oil Company recently completed a well of this size several locations to the east, and Lewis Production Company's Morrow 1, about ¼ mile southwest of the discovery, has cemented pipe at 3512 feet. Elevation of the latter is about 20 feet higher.

Abilene, Texas.—Humble Oil & Refining Company's J. N. Teaff 1, first deep test for Jones County and located about 1 mile east of production in the Noodle Creek field, logged show of gas in lime at 5285-5305 feet, and top of Ellenberger lime at 5437 feet. No shows were recorded in penetrating the Ellenberger to 5485 feet.

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EAST TEXAS

Well showing discounts importance of Opelika.

* * *

Eastern Rusk County test logs nothing encouraging.

* * *

Work in big field drops from recent high peak.

Tyler, Texas.—Failure of Tide Water Associated Oil Company et al's McElreath-Suggett 2-C, second test for the Opelika structure, Henderson County, to yield oil or gas from the 7200-foot level discounts the importance of the small production developed by the first Trinity project for the area. The former test was coring in shale and lime at 7440 feet late last week, with the lower Glen Rose lime and sand series as the next objective. This second Glen Rose zone, which is equivalent to the Rodessa pay, affords the best production opportunities in the lower Trinity, and has not been penetrated at Opelika.

Opelika looked promising as a source of 35 gravity oil and sweet gas last April when Tide Water Associated Oil Company, Seaboard Oil Corporation and Humble Oil & Refining Company's McElreath-Suggett 1-C, about 1½ miles northwest of Opelika, drilled 10 feet of saturated lime, topped at 7185 feet, and threatened to blow out. Drill pipe became stuck about 35 feet off bottom, and had to be cemented at this point. This original well continues to flow 9 barrels of oil daily through partially clogged openings in rock bit, due to large quantity of weighting compounds pumped into the hole to forestall a blowout. It topped the anhydrite at 6930 feet, and the second test has shown conclusively that the production is from a stay zone between the upper and main body of anhydrite. McElreath-Suggett 2-C, located 880 feet southeast of the producer, logged first anhydrite at 6996 feet, or 6544 feet sub-sea, and some porosity at 7278-82 feet, then additional anhydrite was topped at 7315 feet. The latter may be the massive section.

Mount Enterprise to Abandon

Barnett Petroleum Corporation's Sanford 1, Trinity test for the Mount Enterprise faulted structure, eastern Rusk County, was drilling in lower Glen Rose at 6410 feet. It is slated to be abandoned at 6500 feet. Porosity logged at 6187 feet did not warrant testing. Massive anhydrite was logged at 5871-6079 feet, with an elevation of 361 feet. Nivla Oil Corporation's Citizens National Bank 1, Trinity project about 2½ miles southeast of Henderson, Rusk County, was drilling in lime and shale at 5010 feet. General Crude Oil Company et al's Bivens Bros. 1, northeastern Rusk County deep test, 6 miles north of Tatum, was drilling at 5900 feet. Geological markers on the latter are not being made public.

Southeast Anderson County Test Resumes Drilling

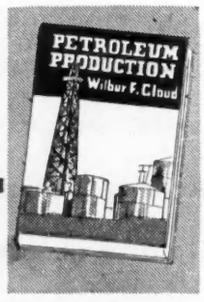
Drilling was resumed last mid-week on C. & G. Oil Company et al's F. A. Newsom 1, located on 30-acre lease, T. C. Lively Survey, near southeast corner of Anderson County, after cementing surface pipe at 540 feet. Location is about 4¼ miles north of Hunt Oil Company et al's discovery oil and gas producer of the Procella area, Houston County. C. & G. Oil Company et al hold lease on 305 acres around their test, but received ample dry hole contributions from Shell Petroleum Corporation, Sun Oil Company and Humble Oil & Refining Company to warrant a Woodbine project. Gardner Petroleum Company contributed leases from its checkerboard spread.

Selection of a third location to fulfill its development obligation in acquiring control of the discovery gasser and drilling block in the Grapeland area, Houston County, will be made shortly by American Liberty Oil Company. Two big gassers have been completed in the Woodbine since the purchase was made last December. All of the wells are capable of yielding distillate when produced. Negotiations are pending for the sale of a portion of the gas production to United Gas System, which serves the town of Grapeland.

First Sulphur Bluff Pumper

First pumping completion for the east portion of the Sulphur Bluff field, Hopkins County, was recorded last week when F. D. Jones et al's A. A. Bassham-Gulf 4, southeast outpost, pumped 105 barrels oil initial. Seven-inch pipe was cemented on top of first Paluxy saturation at 4520 feet, and the well is bottomed at 4540 feet, or 4100 feet sub-sea. D. S. Hager, W. P. Luse and Russ Petroleum Company's Worsham 9, located in the south portion of the discovery tract, pumped 284 barrels fluid, including 15 percent salt water, on initial test from Paluxy at 4509-65 feet. It has an elevation of 438 feet. This group's S. B. Pierce 2, completed last May 21, successfully excluded bottom-hole water in plugging back from 4543 to 4523 feet.

PETROLEUM PRODUCTION



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East Texas field work drops from high peak

Tyler, Texas.—Drilling operations in in East Texas field recorded a slight recession in volume the past week after expanding to a new peak level for the current year. Late survey credits 95 rigs in service, while locations, rigs and idle tests make a total of 190 operations. During the week previous a high level of 104 active rigs was attained. This revival of drilling in a field that has had a major drilling program under way for more than 6½ years can be traced to higher crude price posting last May 22, and to the commission's generous policy in approving well-spacing exceptions for small leases.

The field was credited with 53 completions on the current tabulation. Two dry holes and a junked test were included. Independents contributed 32 of the completions, and are setting the pace in giving the field an average density of about 5½ acres per well.

North Texas deep operations pay owners 100 percent

Wichita Falls, Texas.—Deep Oil Development Company, discoverer of the deepest producing fields in Archer and Wichita counties, will pay a 100 percent dividend to stockholders, according to J. T. Harrell, president. Announcement was made following meeting of directors July 27. This concern was formed and financed by prominent North Texas operators and business leaders in 1930 to wage a search for deep production. The objective was attained in discovering the Strawn pay in the old K-M-A shallow field, Wichita County, and the Chalk Hill field, Archer County, producing from the 3800 and 2200-foot levels, respectively. Canyon lime production at Chalk Hill carried the company through the depression, and currently the K-M-A deep zone is enjoying a belated drilling boom.

EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Atlantic, Ida Kinney 43 (336-ac)	900	3660
British-American O.P. Co., Kangerga 12 (69.78-ac)	9100	3620
Cook Drlg. Co., E. B. Alford 6-A (14.67-ac)	500	3583
R. W. Fair & Thompson, W. E. Wiley 6-B (26-ac)	180	3592
FHE Oil Co., M. L. Thompson 5 (15-ac)	7200	3780
F. W. Fischer et al, G. W. Eaton 21-B (21.52-ac)	4000	3758
G. B. R. Oil Corp., L. Harmon 14 (26.87-ac)	5400	3769
Gulf, W. L. Maxwell 14 (57.01-ac)	8500	3746
W. B. Hinton et al, A. Atterberry 3 (12.95-ac)	1200	3839
Humble, Joe Williams 7 (52.94-ac)	8000	3741
D. L. Johnson & Olson Bros., J. S. Powers 19 (132-ac)	9600	3691
Alex McCutchin et al, S. Stone 5 (5.99-ac)	3600	3781
Sinclair Prairie, Mayfield Co. 76-A (374-.74-ac)	4200	3730
G. Patterson 16 (164.33-ac)	3000	3679
A. M. Sutton & Hawkins, R. J. Vinson 6 (21.6-ac)	960	3596
J. H. Woods et al, Dan Dickson 3 (17-ac)	300	3585
KILGORE AREA—		
Arcadia Ref. Co., E. Samples 17 (101.66-ac)	†	1740
Atlantic, M. B. Hughey 16-B-C (100-ac)	10,200	3610
J. Beren et al, R. Jones 8 (33-ac)	168	3644
Pearl H. Dunner et al, Barnett 1 (10-ac)	40	3742
Barnett 2 (10-ac)	600	3751
Galvez Oil Corp., H. C. Alexander 4 (45.3-ac)	288	3532
Geier Bros.-F. B. Jackson, W. D. Williamson 6 (220-ac)	2500	3716
Gulf Oil Corp., G. W. Culver 34 (209-ac)	3500	3543
Humble, M. E. Minor 14 (123.7-ac)	4500	3760
J. J. Jenkins et al, Cumi-Alexander 2 (2-ac)	2000	3535
C. L. McMahon et al, S. S. Laird 13 (45.1-ac)	9500	3622
Magnolia, D. Wells 17 (100-ac)	2000	3710
Potter Bros. Prod. Co., Parke 2 (1.93-ac)	*	3568
Sun, A. G. Morton 29 (336.24-ac)	2400	3446
Texas Gulf Prod. Co., G. P. Perry 1 (10-ac)	*	3725
Tra-Tex Oil Co., Brightwell 2	8500	3628
LONGVIEW AREA—		
Atlantic, Satterwhite 8-B (40-ac)	6800	3739
Atlantic - Stanolind, Fishburn 18 (112.45-ac)	12,000	3625
Atlantic-Sun, M. Hays 79 (448-ac)	11,000	3625
John Coates et al, F. Williams 5 (17½-ac)	6500	3586
Danciger, D. Bruner 2 (40-ac)	160	3838
Empire, A. Green 12 (67.21-ac)	10,600	3696
L. A. Jeter 22 (122.24-ac)	8000	3589
Humble, H. M. Lawrence 25 (164.7-ac)	7800	3646
E. C. Johnston et al, N. Buie 4 (13½-ac)	6000	3599
Mrs. Lawson & Roger Lacy, C. W. Castleberry 2 (50-ac)	15	3616
Joe Long Drlg. Co.-Cushing Drlg. Corp., Owens 12-A (208-ac)	3000	3628
Magnolia, H. Key 10 (89.86-ac)	9600	3545
H. Hampton 28 (153.33-ac)	6800	3704
Midas Oil Co., Thad Snoddy 3 (6.7-ac)	8000	3598
Pet. Corp. of Venz., Geo. Jones 8 (40.34-ac)	9700	3640
B. F. Phillips-J. T. Baird, H. Douphrate 1-B (6-ac)	15	3774
Rudco O&G Co., W. R. Nicholson 2 (44.9-ac)	250	3731
Stanolind-Tide Water Associated, Fonville 13 (100-ac)	8400	3557
Sun-Atlantic, Mose Thomas 16 (72.2-ac)	10,000	3507
Texas Co., A. J. Deering 9 (64-ac)	1500	3682
United E&W Oil Co., C. T. Shelton 8 (56.3-ac)	750	3720
ANDERSON COUNTY (Cayuga)—		
Tide Water Associated - Seaboard, Lutterloh 4 (601.57-ac)	1500	4021
FRANKLIN COUNTY (Talco)—		
Gray & Wolfe, O. E. Bolin 1 (36.95-ac)	287	4324
Humble, Mrs. D. Reed 3 (80.94-ac)	350	4317
HENDERSON COUNTY (Cayuga)—		
S. B. Howard et al, H. P. Barton 1 (160-ac)	¶6	4128
HOPKINS COUNTY (Sulphur Bluff)—		
Hager-Luse & Russ Pet. Co., Worsham 9 (190-ac)	260	4565
Texas Co., Emma Davis 1 (300-ac)	350	4544
TITUS COUNTY (Talco)—		
Housh & Thompson, Inc., Moore Grocery 2 (42.94-ac)	476	4315
Humble, L. Blackburn 7 (120.26-ac)	299	4300
A. P. King-Hughes 43 (1053.36-ac)	298	4317
Magnolia, K. Mainard 10 (130¾-ac)	165	4305
R. E. Moore, Tr., M. B. Edwards 1-B (3-ac)	244	4304
O'Neal & Rotundi, R. S. Helton 1-A (20-ac)	36	4319
VAN ZANDT COUNTY (Van)—		
Pure, H. C. Gilbert 7 (62-ac)	6000	2994
CASS COUNTY (Rodessa)—		
Bay Oil Co., Cobb 1, G. Crowder sur	480	6125
Parker 1, G. Crowder sur	360	6065
R. W. Norton, Starcke 1, Dudley Gilliam sur	480	6000
W. G. Ray Drlg. Co., Parker A-2, G. Crowder sur	480	6045
PANOLA COUNTY—		
Glassell & Glassell, Pierce & Chesbro 1, Julia Soape sur	†	5881

*Failures; †Junked; ¶Million cu. ft. gas.

New Karnes field to be developed

Beeville.—Immediate development of the newly discovered Pettus sand field, in southeastern Karnes County, is evident, following several lease deals and new locations in the immediate vicinity of the initial producer. This pool was discovered by Pettus Oil & Refining Company's Mrs. R. A. McKinney 1, which flowed 157 barrels of 45.4 gravity pipe line oil on a 12-hour test through ¼-inch choke, developing pressures of 140 pounds on tubing and 240 pounds on casing. The test found sand at 3648-53 feet, casing being landed at 3644 feet.

Between Burnell and North Pettus

The above well is located 750 feet from the north and 330 feet from the east line of the R. C. Ballard Survey, and is about midway between the Burnell gas field and the North Pettus oil field. It is on a parallel system of faulting to these fields and suggests that the three areas are a single field, broken by a series of faults. This condition is similar to the Dirks, West Tuleta, Pettus, etc., areas to the south and in Bee County.

Luling Oil & Gas Company has skidded the rig with which it drilled the discovery well one location to the east for its own test, C. W. Boyce 2. Dirks Brothers have staked location 330 feet out of the southeast corner of the Ruhmann tract and J. Johnson Survey, about 1100 feet northwest of the discovery. The well is on a 117-acre lease acquired during the week.

Summer course in petroleum engineering

Austin.—A new summer course devoted to the study of petroleum engineering in the field is being developed this year under the supervision of H. H. Power, of the petroleum engineering faculty, University of Texas. A study of drilling and operating problems was made by the class in the Big Lake Field in the West Texas Permian Basin area. Supplementary talks were given by various members of Big Lake Oil Company, including E. V. Foran, engineer for that organization. Chas. E. Byer, vice president, made it possible for the class to study field operations in detail, thereby affording a better conception of production and development methods on University lands.

Visit Operations

The class also studied field operations at Gulf Oil Corporation McElroy Ranch, and visited properties in the Waddell, Goldsmith, Yates, McCamey, Kermit, and Hobbs areas. Supplementary talks were given by Messrs. Hatfield, Crites, and Copeland of the Gulf organization.

A side trip was made to the Davis and Glass Mountains to study geological sections ordinarily drilled in the West Texas areas.

Considerable interest has been shown in the development of the field course, and its extension to include additional areas is under consideration.

SOUTH TEXAS

Austin Chalk play may be extended 20 miles.

* * *

Possible Coast and Valley field openers watched.

San Antonio. — Austin chalk play, centered mainly around Guadalupe and Caldwell counties, was extended about 20 miles northeast into Bastrop County by Hantho-Nelson, Inc.'s K. M. Litton 1, about 2½ miles east of Cedar Creek. The well topped Austin chalk at 1972 feet, found saturation in the first 70 feet and set casing atop the formation. The full section of chalk will be drilled and the well completed via the usual methods employed in this area.

The well is 400 feet from the northeast line and 450 feet from the southeast line of a 71-acre tract in the Addison Litton survey, and is only 200 feet from an abandoned test which had shows in the Austin chalk.

Should the well develop into a producer, it will be the first Austin chalk production for the county and will materially expand the play. There is considerable faulting through the county and development of such type production is highly probable.

Caldwell and Guadalupe counties offered little new in the way of developments during the week other than the continued heavy campaign in the several shallow fields. Several new wildcats on known fault trends were commenced.

Bexar County gives promise of a shallow Austin chalk field about 12 miles south of San Antonio. Edna May Oil Company's C. N. Cassin 1, drilled to 1349 feet in Buda limestone topped at 1309 feet. The test topped the chalk at 1144 feet and showed saturation into the Buda section, following which it was tested. At last reports, the well was being swabbed with some oil showing.

Amerada Petroleum Corporation's Halff and Oppenheimer 8, Pearsall field, Frio County, was ready to drill ahead after drilling plugs at 10,341 feet where 7-inch protection string was set. The test now is waiting on a new string of drill pipe. About 2½ miles southwest of the field, Harrigan 1 was not looking too good. It is being acidized again in the chalk, which was topped about 5450 feet.

Wilcox Oil & Gas Company has spudded and set surface casing in Light Ranch (Luminar) 2 and is ready to commence Light Ranch (Myssie) 3, both projected to possibly 8000 feet. One 8000-foot test already has been sunk on this southeastern Dimmitt County tract.

The Batesville field discovery well, Zavala County, has been again placed on production. The test, H. F. Wilcox's Gilliam 1, was deepened to 3949 feet, four feet in the Edwards limestone and a pump installed. The test has been pumping at the rate of 135 to 140 barrels of fluid per hour, 91 percent of which is water and the remainder oil.

Trying to complete McCampbell outpost

Corpus Christi. — Danrey Oil Company was still trying to complete Jean McCampbell 1, potential field opener or two mile southwest extension of the McCampbell field into San Patricio County. The well, reported to be bottomed at 6606 feet with casing set on bottom, found a sandy section below 6555 feet which carried both oil and gas shows. The perforations for first completion attempt failed to give up enough oil to make a commercial well and at last reports it was being reperforated. The first test is supposed to have shown some sulphur water with oil.

The sand is in the Marginulina zone, about the same level as the production in the first sand at McCampbell.

About 6500 feet to the southwest, efforts by Humble Oil & Refining Company to further extend the field failed when John S. McCampbell 1 was abandoned at 7215 feet. It showed a sand and shale section in the Frio at the same level as the 7100-foot level in the McCampbell field, but tested only a slight amount of oily mud.

The McCampbell Field is at the present one of the most active areas on the South Texas Gulf Coast, more than a dozen rigs running to the sands below 7000 feet. It is the first oil field in the area below the 7000-foot level to receive a major development.

More Saxet Drilling

Saxet Field, Nueces County, had its multiple well drilling program advanced to quadruplet producers by the completion of Donico Production Company's Donnigan 3, which flowed 22 barrels in four hours through 3/16-inch choke under pressures of 650 pounds on tubing and 800 pounds on casing after perforating casing at 4070-72 feet. Four wells are located 50 feet apart and are producing from the 4000-, 4400-, 4500- and 4800-foot sands. In these areas of the field where operators have resorted to multiple development, wells are very closely massed. In other portions of the field, several sands are tested in wells, casing run through the section and the lowest sand produced. As the sand becomes depleted, the perforations are made higher and the unproduced levels are used as a source of recovery.

Humble Oil & Refining Company's Graham and Molter 1, Lot 16, Block 41, has been abandoned at 6771 feet, to be the first failure within the general limits of the Flour Bluff Field, Nueces County. The well, located on the west side of the producing area is one-half mile east of Cayo del Oso and indicates that the expected marine drilling campaign in that direction may not materialize. Across the Cayo, however, Fain Gillock et al's Poenisch 2, Lots 7 and 8, Block 32, was below 5500 feet.

Several Nueces County wildcats were at discouraging levels. Seaboard Oil Corporation's Chapman 1-C, Section 111, near the Kleberg County line, was at 7010 feet running electric formation tester, while No. 1 El Jurica, Block 32, was at 6520 feet without encountering anything interesting. Same company's Shaffer 1, in the Luby area, had progressed to 5556 feet on a deep contract after having had good shows in the field's regular sands. Sam E. Wilson's Jr.'s Herold 1, on the hot Bohemian Colony prospect, south of Corpus Christi, was at 2200 feet.

The Agua Dulce area still holds the deep spotlight with United Production Corporation ready to core the 7300-foot Vicksburg sands in M. L. Rivers 3-A, while T. S. Schroeder 1 is progressing near 5000 feet. Lockhart Brothers' Purl 1 had difficulty in sidetracking stuck drill stem at 7052 feet, the string becoming stuck again. Conroe Drilling Company's Hagan and Steward 1, in the south area, was drilling ahead at 6485 feet, while John F. Camp's Wardner 2, in the Stratton pool to the southwest, was being completed at 4725 feet to be the second oil well in that pool.

Magnolia Petroleum Company's A. A. Seeligson 7, southeastern Jim Wells County, found more sands carrying distillate, likely upper Vicksburg. A report July 30 was to the effect that: took drill stem test 6488 to 6503 feet, recovered 60 feet distillate with 1000 pounds pressure in 10 minutes. Cut another 5-foot core and started out of hole when well blew out. Closed preventor but would not hold. Now blowing between drill pipe and casing.

One of the most important wildcats thus far drilled in the Bonnie View area of Refugio County is Conroe Drilling Company's Kloesel 1, SW NE Section 11, which is coring below 4200 feet. It tested salt water in the Big sand, encountered at 3631 feet. This test has been drilled on a small block surrounded by major company and independent holdings, most of which were acquired at fancy prices.

Barnsdall Oil Company was coring ahead at 9400 feet after a drill stem test at 9272-92 feet developed 1960 feet of salt water with a little gas cut mud in 10 minutes. The well is Kate Edwards 1-A, and is on the Lamar prospect in Aransas County.

Heyser Field, of Calhoun and Victoria Counties, takes on a boom-like appearance with more wells being completed in the sector recently proved productive by an extension well.

Steinberger Petroleum Corporation has located another deep test, likely to 7000 feet in the Cockfield, in the Edna area of Jackson County. It is S. G. Druschell 1-C, southwest corner of Lot 3, Gale subdivision. On the Red Fish Lake prospect, same county, George Greer et al's Davis (Ward) 1, was drilling near 7000 feet.

Active play started in eastern Duval County

San Diego.—With a wildcatting play commenced on a trend with the Sweden District, Eastern Duval County, comes to light as one of the key development areas of South Texas. New deals now pending or completed will bring the drilling of nearly a score of tests, all to the Cockfield or deeper.

The main play is immediately around Benavides at this time. Glenn H. McCarthy is scheduled to drill just southeast of the town of Sweden, west of the field, and Bancroft et al are reported to be planning operations to the northeast of this location. Still farther northeast and about one mile north of the North Sweden field, V. L. Blancard is supposed to have staked his location in the southeast corner of tract 59, Survey 238 for Valleo 1. Two more tests are planned on the Piedras Pintas Salt Dome, one of which is to be east of Benavides.

Three miles to the northwest of Benavides, Texas Canadian Oil Corporation's M. J. Luby 1, in the northwest portion Subdivision 10, Garza Irrigation Company Survey, is spudding a 5500-foot test. John H. Hougen, Trustee's Patton 1, Section 148, about five miles northwest of Benavides is drilling near 2200 feet, while Penn-Palangana Oil Company's C. K. Gravis 1, Section 254, still farther north, is coring ahead at 5620 feet, having tested mud in the upper Cockfield at 5007-53 feet and salt water in the Conroe sand at 5364-73 feet, top of Cockfield having been logged at 4991 feet. Trahan and Tuttle's J. C. Megerle 1, Section 245, in the same general area, is shut down at a shallow depth.

North Sweden Well to Pump

Navarro Oil Company's E. M. Rossi 1, Section 11, west side of the North Sweden field, which recently opened Pettus sand production, is to be placed on the pump. The test had drilled to 6179 feet, plugged back to sand at 5330-42 feet, where the test flowed some 45.3 gravity oil. Shut in, it built up a little pressure, and flowed 29 barrels in 1½ hours through ½-inch choke, then went dead.

Between this pool and the main Sweden area, Hiawatha Oil Company's Southland Life Insurance Company 3 was coring ahead around 6285 feet, having missed production in the regular sands of the field. Two miles east of the discovery area, King Drilling Company abandoned Atlee Parr 1, which perforated at 5930-42 feet and swabbed salt water with a skum of oil. It is bottomed at 6531 feet.

Ezzell Ranch field, McMullen County, received its first setback as Edwin M. Jones' Harry Ezzell 9, was abandoned at 2005 feet after finding only streaked sand at 1500-60 feet and tested eight joints of oily mud. It is 660 feet south of a producer.

J. R. B. Moore's Maria G. Martin 1, one mile south of Oilton, is in process of completion to provide an extension of more than 3½ miles southwest to the Killam field, Webb County. It cored Mirando oil sand at 1915-43 feet, and in 10 minutes developed 250 feet of pipe line oil. Casing was set July 30, and the well likely will be finished over the week end. The new strike is 150 feet out of the northeast corner Survey No. 458. It lengthens the field to about five miles northeast and southwest, and indicates that it may be of similar importance as the Lopez field, prolific producing area to the northeast.

C. H. Bailey, Lipscomb and Daubert, Rowan and Hope, Paul Meaders, J. M. Anderson, O. W. Killam, Eugene Mays, Humble Oil & Refining Company, Navarro Oil Company, Hamill and Smith, W. B. Blanchard, French Oil Corporation, Beiling and Jones are among the principal leaseholders.

Alta Mesa well plugs back to test again

Mission.—Standard Oil Company of Texas' Mestina Oil & Gas Company 1 (Lease 2), which is expected to open a new oil pool 6 miles north of the Alta Mesa area in Brooks County, was preparing to test at 2380-95 feet. The test originally had drilled to 6786 feet and stage tested up the hole. A perforation job at 2487-2495 feet was the last test made, at which time the well flowed at the rate of 1000 barrels of sulphur water and no oil per day. Its pressure was 29 pounds at the surface the first 15 minutes of the test, but

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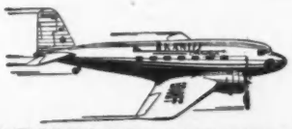

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Mestina Oil & Gas Company 5, Lease 1, deep test in the main field, drilled to 5505 feet, set 5-inch casing at 4827 feet, perforated at 4780-90 feet, and was testing. The sand was logged at 4780-4820 feet. It is attempting to establish an entirely new sand for the field.

In the deep La Blanca field, Hidalgo County, Atlantic Refining Company is coring below 8150 feet, having passed through all of the sands thus far uncovered in that area. The last sand at 8005-17 feet showed gas and distillate. Davenport & Swallow's C. H. Swallow 1, an offset, was below 7565 feet, fishing for stuck drill pipe. Phillips Petroleum Corporation was staking location for an 8000-foot test in the field.

Shell Petroleum Corporation's Yturria 1, deep test in the La Sal Viejo field, Willacy County, was testing after perforating at approximately 7575-7600 feet. Another test is planned immediately on the block.

In Starr County, John H. Clopton et al have gone back onto Green 1, Block 5, Share 55, Porcion 81, wildcat several miles north of Rio Grande City, and are reworking. The well, originally drilled to 4620 feet, was completed recently as a gasser through perforations at 1600-4 feet, but salt water broke in. A plug was set at 1122 feet on the rework project and perforations made at 1112-16 feet, where the test blew out as a gasser.

SOUTH TEXAS Completions

SAN ANTONIO DISTRICT

Company, Well and Location	Init. Prod. Bbls.	Depth
BEXAR COUNTY—		
Virginia Oil Co., Bitter 3, Jose M. Baerrera sur (Macdonna)	3	621
BURLESON COUNTY—		
John Deering, Gerald 1, 330 ft nl and el of 66-ac tr, James Buchanan sur	*	2310
CALDWELL COUNTY—		
Baker-Freeman Oil Co., Corder 2, John A. Neill sur (Branyon)	200	2130
H. J. Baker, F. Smith 1, 155 ft nl, 2350 ft wl 100 ac tr R. Davidson sur	*	3621
Edwill Oil Co., Cude 3-A, Wm. Spiller sur (Buchanan)	35	1876
Koenig Oil Co., Tiller 11, John Henry sur (Luling)	20	2103
Lincoln Pet. Co., Calliham 6, Dillard Cooper sur (Branyon)	22	2150
Rio Bravo, Merriwether 15, John Henry sur (Luling)	200	2110
Siznod Oil Corp., A. B. Reed 1, 500 ft nl, 700 ft wl fr 200-ac tr Mills G. Dyke sur No. 2	*	2561
Taylor Ref. Co., F. M. Branyon 2-C, R. B. Branyon sur (Branyon)	60	2330
GUADALUPE COUNTY—		
Sumas Prod. Co., Burns 1, 225 ft nl 600 ft el 109-ac Highsmith sur	*	2397
LEE COUNTY—		
Eleoussa Oil Co., Sanders 1, 330 ft sl and 200 ft el of 102-ac tr J. Von Roeder sur	*	3675
WILSON COUNTY—		
F. H. Eckert & Sons, Federal Land Bank 1, 450 ft swl and 1600 ft sel 496-ac tr Rafael Salinas sur No. 343	*	1252
Maryland Oil Corp. et al, Tremmell 1, 330 ft nel and nwl of n cor 93-ac tr M. May sur A-204, (owwo)	*	5611
WILLIAMSON COUNTY—		
J. Edward Mills, M. M. Oliver 1, Simon Miller sur (Chapman)	*	425

CORPUS CHRISTI DISTRICT

Company, Well and Location	Init. Prod. Bbls.	Depth
ARANSAS COUNTY—		
Atlantic, Guaranty 1-A, lots 15 and 16, McCampbell Ranch subd, blk 13 (McCampbell)	360	7163
T. O. McCullough 1, McCampbell Ranch subdivision (McCampbell)	315	7124
Shasta Oil Co., Clyde Vaughan 1, lot 13, block 10, McCampbell Ranch subdivision (McCampbell)	1155	7124
BEE COUNTY—		
Ann Oil Co., Smith 2B, J. R. Johnson sur (Plummer)	145	3075
W. C. McBride, Inc., Schnieder 1, E. L. and R. R. sur (Plummer)	355	3068
BEE COUNTY—		
Salt Dome Oil Co., Tuleta Merc. Co. 2, J. M. Uranga grant (W. Tuleta)	6	3263
BROOKS COUNTY—		
Standard of Texas, Garcia 2, La Mestina and La Gonzalena grant (Alta Mesa)	320	2555
Wyrick Well Survey, Inc., Wm. Singer 1, S. Alarcon sur (Alta Verde)	15	843
CALHOUN COUNTY—		
Portilla Drlg Co., Welder 8C, Agaton Sisneros sur (Heyser)	840	5470
GOLIAD COUNTY—		
Dirks Bros., Allen 2, 150 ft nel, 2130 ft nwl of tr, Obid Marshall sur	*	4580
JIM WELLS COUNTY—		
H. H. Presnall, Hofbauer 1, Haldeman subd, Seeligson Ranch (Premont)	*	3596
KARNES COUNTY—		
Magnolia, Guy Porter 16, B. and B. sur No. 23 (N. Pettus)	175	3728
Pettus O&R Co., McKinney 1A, 750 ft nl, 330 ft el of 856.77-ac tr and sur, R. C. Ballard sur, 1 mi n of N. Pettus (opens new field)	945	3653
LIVE OAK COUNTY—		
Henshaw Bros. & Nelson, Wesch 1, 513 ft nl, 330 ft wl, Alfred Wesch 100-ac tr of R. Tripplet sur, approx 6 mi ne Oakville	*	3218
Loma Oil Co., S. A. Joint Stock Land Bank 1, 1900 ft sl, 330 ft wl, John Turner sur, 1 mi e of Callaham	*	1510
NUECES COUNTY—		
Donico Prod. Co., V. M. Donigon 3, sec 7, range 6, Kinney sur (Saxet)	360	4303
NUECES COUNTY—		
Floboots Pet. Co., Humphrey 6, J. W. Stevens sur (Saxet)	¶10 & 75	6982
Hiawatha O&G Co., Smith 5A, Shepherd Farm Lots (Saxet)	750	5837
H. H. Hoffman, Lynch 1, Corpus Christi field (Saxet Heights)	520	4110
H. H. Howell et al, Morgan 4, sur 415 (Saxet)	220	6920
Humble & Barnsdall, Graham & Molter 1, lot 16, blk 41, Flour Bluff & Encinal Garden trs (Flour Bluff)	*	6771
Ritter 2A, lot 24, blk 55, Flour Bluff & Encinal Garden trs (Flour Bluff)	650	6655
Webb 6, lot 8, blk 47, Flour Bluff & Encinal Garden trs, (Flour Bluff)	600	6666
Richardson Pet. Co., Sedwick 9, John Dunn sur No. 312 (Saxet)	750	4410
R. L. Shroyer et al, Talbert 1, 150 ft nl & el of 95-ac tr, A. F. de la Fuente sur	*	lcn
Taylor Pet. Co., Taylor Ref. Co. 1, Villareal grant (Saxet Heights)	160	4078
T.&T. Oil Co., Cain & Sechrist 4, J. C. Russell Farm Lots (Saxet)	375	4559
Texon Drlg. Co., Kocurek 8, J. R. Ward sur No. 316 (Saxet)	320	4556
Sam E. Wilson, Kaiser 1, Ellendale Gardens (Saxet Heights)	170	4110
REFUGIO COUNTY—		
Hewitt & Dougherty, Lambert 51, Swisher sur (Tomoconnor)	1375	5915
Lambert 52, Swisher sur (Tomoconnor)	1300	5907
M. Jones, Shelton 1, Refugio Town grant (Refugio)	*	7959
Quintana Pet. Corp., Heard 4, M. J. Ximines sur (Tomoconnor) perf 5794-5858 ft	¶20	7040
Randon Oil Co. & American Liberty Co., J. Vincent 1, 330 ft nl & el of blk 9 Randon Oil Co., O&G lse subd of Vincent Lands C.E.I.P. & M. sur No. 41 ab 121	*	6014
United Prod. Corp., Lambert 56, J. M. Swisher sur (Tomoconnor)	1250	5910
Lambert 58, J. M. Swisher sur (Tomoconnor)	1100	5915
VICTORIA COUNTY—		
Barnsdall & American Liberty, Pickering et al 11, Wm. Rupley sur (Placedo)	475	4775
Pickering & Roos 20, S.A.&M.G. sur (Placedo)	300	4767
Magnolia, Beck 1, 975 ft nwl & 2400 ft swl of 201.3-ac tr T&NO RR sur No. 1 A 407	*	4777
Charlie 10, S.A. & M.G. sur (Placedo)	125	4770
Haynes B. Owenby, T. P. Traylor 5, S.A. & M.G. sur No. 7 (Placedo)	750	4770
Shell, Houston National 5, S.A. & M.G. sur No. 7 (Placedo)	†	6050

LAREDO DISTRICT

Company, Well and Location	Init. Prod. Bbls.	Depth
DUVAL COUNTY—		
Argo Oil Co., Carillo 4, sec 9 Sweden subd, Santos Flores gr (N. Sweden)	500	4753
T. E. BROWN, Peal 1, sur 796 (Lopez)	168	2219½
Cox & Hamon, O. W. Green 15, B.S. & F. sur (Hoffman)	90	2740
O. W. Green 21, B.S. & F. sur No. 118 (Hoffman)	120	2719
N. V. Duncan, Worden-Drought 12, sur 151 (Charamousca)	*	1595
Duval Oil Corp., Hoffman 3-A, sur 118 (Hoffman)	78	2744
Government Wells Oil Co., Inc., Lundell 3, HE WT RR sur (Lundell)	*	2231
Frank Gravis, Puig 1, San Andres gr, (N. Sweden)	675	4802
Hiawatha O&G Co, M. M. Miller 2, blk 24 Ball Ranch subd, Agua Poquita gr (Sweden)	¶5 & 50	5866
Humble, Dowdy-Fee 20, B.S.&S.F. sur, sed 272 (Seven Sisters)	175	2557
King Drlg. Co., Parr 1, 330 ft el 990 ft nl of 400-ac lse San Andres gr, 2 mi e Sweden field (Sweden)	*	6531
Magnolia, Servando Benavides 29, blk 15 O'Hern & Seacord subd Mesquite gr (Cole-O'Hern)	200	2860
DCRC 2, 330 ft sl & el sur 58 (Lundell)	*	2698
DCRC 19, sec 100 (Piedre Lumbre)	75	1996
M. Ruiz 10, sur 574 (Sarnosa)	25	2450
John J. O'Hern, S. Benavides 1-E, blk 39, O'Hern & Seacord subd of El Mesquite gr (Cole-O'Hern)	*	2893
Pan American Prod. Co., J. F. Welder Heirs 6-A, sur 381 (Seven Sisters)	480	2544
George Parr Oil Co., Puig 2, sur C.S.G.&WOC (N. Sweden)	390	4816
Standard of Kansas, Lillian Parr 2, San Andres gr (N. Sweden)	750	4745
E. B. Walstad et al 1, blk 9 Sweden Farm Lots subd, Agua Poquita gr (N. Sweden)	450	4790
McMULLEN COUNTY—		
Edwards & Zoch, Two Rivers Ranch 1, 150 ft wl & wl of sw/4 of se/4 of sec 60 Two Rivers Ranch	*	1778
M. Jones, Ezzell 9, H. Russell sur (Ezzell)	*	2005
Loma Oil Co., L. Jacob Corp 9-B, C.H.&H. RR sur No. 15 (N. Jacob)	25	1050
C. C. Shumway et al, Shiner Ranch 10, 330 ft nl & wl ne/4 ne/4 sec 51, Shiner subd of Shiner Ranch	*	1584
STARR COUNTY—		
Gilcrease Oil Co., DeCastillo 1, 1550 ft sl & 1340 ft wl of sh 7-D por 77 center of lot 9 Walker subd of Sh	*	1252
WEBB COUNTY—		
J. B. Cutbirth et al, Bruni Est 1, blk 5 sur 8, Foltz subd Mariano Arispe gr (Cole-Bruni)	*	4105
Eugene Garner, Jr., Saldivar 2, 2300 ft nl 1000 ft el sur 657 J. B. Borrego gr	*	1000
Humble, Laurell et al 3, S.M.&S. sur (Killam)	140	2033
Laurel 4, sur 333 (Killam)	150	2045
O. W. Killam, Garcia 10, sur 786 (Killam)	75	2025
C. H. Lewis, A. Lopez 12, sur 110 (Lopez)	*	2340
Lutex Oil Co., Lone Star Con. Co. 2-A, 8150 ft nel 660 ft sel of por 12, 150 ft s of No. 1-A	*	3504
Sun, S. Benavides (Brennen) 14, blk 442 M. E. Hale subd M. Arispe gr (Cole-O'Hern)	*	2973
ZAPATA COUNTY—		
J. O. Sheffield, Buck 1, 330 ft nel & sel blk 15, J. O. Sheffield subd, sur 273	*	2240

*Failures; †Junked; ¶Million cu. ft. gas.

TEXAS GULF COAST

Deepest Texas production is at Old Ocean.

* * *

Abandoned well makes gasser at Orange field.

* * *

Another test starts in new Friendswood field.

Houston.—Developments at Hardin field, Liberty County, completion of the deepest producer in Texas, and extension of proven fields held the interest of operators in the Texas sector of the Gulf Coast during the past week.

Jack Frazier completed a gas and distillate producer at Hardin when J. Roberts 1, 1½ miles east of Hanchey 1, H. B. Johnson survey, came in making 49 barrels of distillate in 20 hours with an estimated flow of 3,000,000 cubic feet of gas daily through a 12/64-inch bottom-hole choke. Tubing pressure was 400 pounds. It was completed after 5-inch casing was perforated with 50 shots from 7567 to 7581 feet.

Woodley Petroleum Company has drilled W. McMurtey 1, H. B. Johnson survey, down to the producing sand at Hardin. Last week it was preparing to drill cement plugs in the 7-inch casing which was set at 7595 feet. Sand showing oil was logged from 7583½ to 7595 feet. The hole was drilled to 7626 feet.

Two new locations were announced at Hardin which will bring two new operators into the field. Shell Petroleum Corporation will drill J. H. Cessan 1, 330 feet out of the southwest corner of a 40-acre tract in the H. B. Johnson survey. It is a north offset to the Woodley Petroleum Company's McMurtey 1. O. L. Brace announced location for Lynott & Buffan 1, 800 feet west of the discovery well at Hardin.

Old Ocean Has Texas Deepest

Old Ocean, Brazoria County, was extended 1800 feet south when a new sand was discovered at 10,401 feet, which is the deepest producing sand in Texas. Harrison & Abercrombie's Bernard River Land Development Company 4, C. Breen Survey, was flowing 390 barrels of fluid daily on various size chokes with a tubing pressure of 3600 pounds and a casing pressure of 3650 pounds after 7-inch casing was perforated with 22 shots from 10,395 to 10,401 feet. The well is not completely cleaned but is flowing a large volume of 48 gravity oil and washwater. No salt water was reported. It was drilled to 10,775 feet and 7-inch casing cemented at 10,415 feet, being the longest string of 7-inch casing ever set in the Texas Gulf Coast. A 5-inch liner was run but stuck at 10,522 feet. Broken formation showing oil and gas was logged from 9800 feet to the bottom of the hole. It is the deepest commercial producer in Texas and also discovered the fifth producing horizon for Old Ocean. The field is producing from 8650 feet, 9850, 9960, 10,293, and 10,401 feet.

On the Peach Point prospect in Brazoria County, Pure Oil Company set 7-inch casing at 8161 feet in Slade 1 to protect the hole. The company tried to run the casing to 8353 feet but it became stuck at 8161 feet. The casing was perforated at 8081 feet and cement was squeezed through the perforations. This test has encountered considerable trouble with heaving shale.

Silsbee Field Extended East

Silsbee, Hardin County, was extended east last week when Republic Production Company completed Brooks 18, G. W. Brooks Survey, flowing 350 barrels daily through a quarter-inch choke with a tubing pressure of 800 pounds and a casing pressure of 650 pounds at 6915 feet. Oil sand was logged at 6907 feet and 7-inch casing was set at that depth.

South of production at Segno, Polk County, Humble Oil & Refining Company recovered 1400 feet of salt water in 13 minutes when a drill-stem test was made on Kirby Lumber Company B-6 at 5347 to 5367 feet. A sand with a slight odor of oil was encountered from 5328 to 5348 feet.

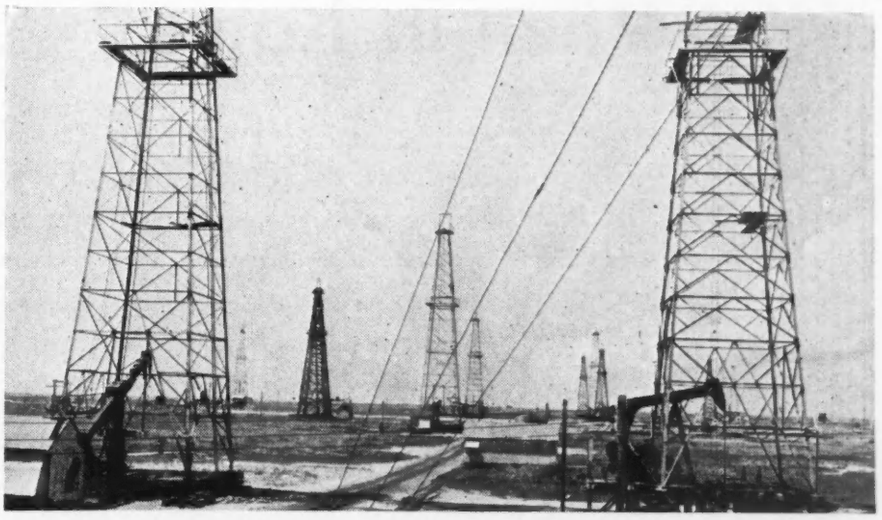
United Gas Company took over the old J. R. Turnbull well on the northeast flank of Orange field, Orange County, which was abandoned at 7006 feet, and converted it into a gas well. Lutcher Moore 1 was drilled to 7006 feet by J. R. Turnbull and after United Gas Company took over the well it was plugged back and a retainer was set at 5617 feet. The well came in making 35,000,000 cubic feet of gas daily through open casing. Tubing pressure was 2150 pounds and casing pressure was 2100 pounds.

Locations and Extensions Hold Spotlight in Harris County

Humble Oil & Refining Company announced the second location for the new Friendswood field, Harris County. It is L. Beamer 1, 933 feet northeast of the discovery well in the Perry & Austin Survey. Operations on the new well will begin around the first of August.

About 932 feet east of production at Fairbanks, Harris County, Amerada Petroleum Corporation and Stanolind Oil & Gas Company were preparing to complete Wright Land Company 1, F. Fry Survey, after logging oil sand from 6812½ to 6832 feet. Seven-inch casing was cemented at 6833 feet. Gas sand was logged at 6746 feet. The hole was drilled to 6834 feet in salt water sand after topping the sand at 6832 feet.

After working over the discovery well at Clinton, Harris County, Stano-



There has been some discussion of repressuring or jetting wells at High Island, Galveston County, with gas from Seabreeze, Chambers County. Stanolind Oil & Gas Company has contract with Sun Oil Company for gas from Seabreeze. If this proposal is completed the gas will be piped through Stanolind Oil & Gas Company's 10-inch abandoned oil line which Yount-Lee Oil Company built from High Island through Seabreeze to Spindletop. The picture shows pumping and abandoned wells on the south flank of High Island field.

find Oil & Gas Company made location for A. S. Moody 1, 4000 feet north of the south line and 7600 feet west of the east line of Reels and Trobrough Survey.

Stanolind Oil & Gas Company's discovery well, A. Candelari 1, was recompleted at 8102 feet making dry gas through a 5/32-inch choke with a tubing and casing pressure of 2850 pounds.

Two and one half miles west of production at Seabreeze, Chambers County, Sun Oil Company swabbed salt water in F. Jackson 1, A. Yborbo Survey, at 8570 feet. At the end of the week pulling screen and liner were being pulled to go deeper. Jackson 1 topped a sand at 8521 feet and set 9⅝-inch casing at 8535 feet.

Skelly Oil Company has made location for a deep exploratory test at Van Vleck, Matagorda County. Cobb B-14 is an inside location, 1243 feet northeast and 1687 feet northwest of the southeast corner of a 919-acre tract in the M. Cummins Survey. The permit calls for 11,000 feet but the well will be drilled to an undetermined depth.

Texas permits to drill drop sharply during week

Austin.—The Texas Railroad Commission approved last week permits for drilling 236 new wells in Texas, 206 less than the week before.

In the East Texas field there were only 4 new locations reported, 2 in Gregg County and 2 in Rusk County.

West Texas was allowed 53 permits, with 11 in Ward County and 10 in Ector County. There were 18 new locations in the Panhandle area.

There were 35 locations from the North Texas district, including 11 in Wichita County. West Central listed 25 new wells.

There were 37 permits for wells in the Gulf Coast area. Southwest Texas reported 45 new locations with 18 in Caldwell County and 13 in Duval County.

Texas state leases to be awarded

Austin.—The Texas State Board for Mineral Development was scheduled to meet Monday, August 2, to determine successful bidders on several tracts of river bed lands.

The bids were opened July 13, but award was delayed pending an analysis of each bidder by supervisors for the board. Supervisors made their recommendation to the board during the past week, but individual members felt they should give them further study.

If the board follows the supervisors' recommendations, the leases would be awarded as follows:

Trinity River Bed in Freestone and Anderson Counties, one 45 acre tract, C. B. Woodard of Palestine on a bid of $110 cash and ⅛ royalty.

In the same section, tract 8 and tract 9, Claude L. McIver of Kilgore, who offered $6.00 an acre and 3/16 of the oil and additional 3/16 after the operator has recovered $39,000.

Sabine River, five tracts of 10 acres each, Revis James of Dallas, with a bid of $10.75 an acre and 5/32 royalty.

Nueces River Bed, one tract, J. E. Mathews, of Dallas, $225 cash and 20 percent on pump wells and 30 percent royalty on flowing wells.

Colorado River in Wharton County, Tracts 1, 2 and 3, to Temple Hargrove of Houston, $2100 cash bonus, ⅛ royalty and $50,000 out of ⅛ of ⅞.

Tract 4, Colorado River, E. W. Ogden of Houston, 3/16 of the oil and an additional 2/16 after the operator has netted $65,000.

Tract 5, Revis James of Dallas, 1/6 of the oil until the operator recovers $60,000 and thereafter ¼.

Tracts 6, 7, 8, W. B. Williams of Longview, $5.00 an acre cash and a logarithm bid ranging from 15 to 49% of the oil. Tract 9 to James on the same as his other bid.

Tract 10, Colorado River, to Herman Brown of Austin, $5 per acre and ⅛ royalty until the operator has recovered 20,000 barrels and thereafter 1/6 royalty.

Brazos River Bed, Brazoria County, E. J. McCurdy, Jr., who made a logarithm bid ranging from 12½ to 51% royalty plus $300 cash.

TEXAS GULF COAST Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
AMELIA—		
Humble, Bueford 1	696	6780
Peveto 4	624	6782
Phelan 6	643	6776
Tyrell Combest 7	578	6782
Tyrell Combest 14	*	6800
ANAHUAC—		
Humble, Clark 12	681	7090
Johnson 10	682	7110
BRENHAM—		
Virginia Oil Co., F. W. Schuerenburg 1	*	636
CLINTON—		
Stanolind, Candelari 1 (wo)	¶	8102
ESPERSON—		
General Crude, Moores Bluff 25	*	4669
HARDIN—		
Jack Frazier, Roberts 1	60	7586
HASTINGS—		
Navarro Oil Co., Beers C-1	553	6065
Stanolind, Condon 1	648	6080
Curkeet 6	648	6080
Dewitt 1	*	6131
Key 1	634	6160
N. Mae Reichardt 2	384	6080
S. Paul 8	624	6080
S. Paul 12	648	6065
Stockwell B-1	*	6198
HULL—		
Bishop Oil Co., Wilson 1	*	4127
Houston Oil Co., Hannah 2	687	4955
HUMBLE—		
J. F. Huff, Echols 9	12	890
LIVINGSTON—		
Owenby Dr. Co., Pratt 10	70	4220
LOCHRIDGE—		
Gulf, Woods 2-A	377	6377
MARKHAM—		
Hamil & Hamil, Hudson 3	172	3637
NOME—		
Sun, Burrows 3	290	6045
Burrows 4	*	5662
ORANGE—		
United Gas, Lutcher Moore 1, (wo)	35	5716
PIERCE JUNCTION—		
Gulf, Cain 13	391	4452
SANDY POINT—		
J. T. Driscoll, Gullett 1	*	lcn.
SILSBEE—		
Republic Prod. Co., Brooks 18	350	6915
SOUTH HOUSTON—		
Stanolind, Drilling District 20, No. 2	429	3930
SPINDLETOP—		
Unity Oil Co., McFadden 104	*	2440
TOMBALL—		
Humble, Holderrieth 7	¶2	5556
Treeck 2	22	5582
VAN VLECK—		
Skelly, Johnson 2	312	8224
WEST BEAUMONT—		
Stanolind, McCormick 4	527	5400

*Failures; †Junked; ¶Million cu. ft. gas.

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SHREVEPORT, LOUISIANA

PELCO

Lake Charles—Houma—Converse
New Iberia—Rodessa—Monroe—Cotton
Valley—Turnertown—Greggton—Houston

SOUTH LOUISIANA

Black Prince Island wildcat producing oil.

* * *

Horseshoe Bayou may be second deepest field.

* * *

Potash prospect shows salt dome at 1465 feet.

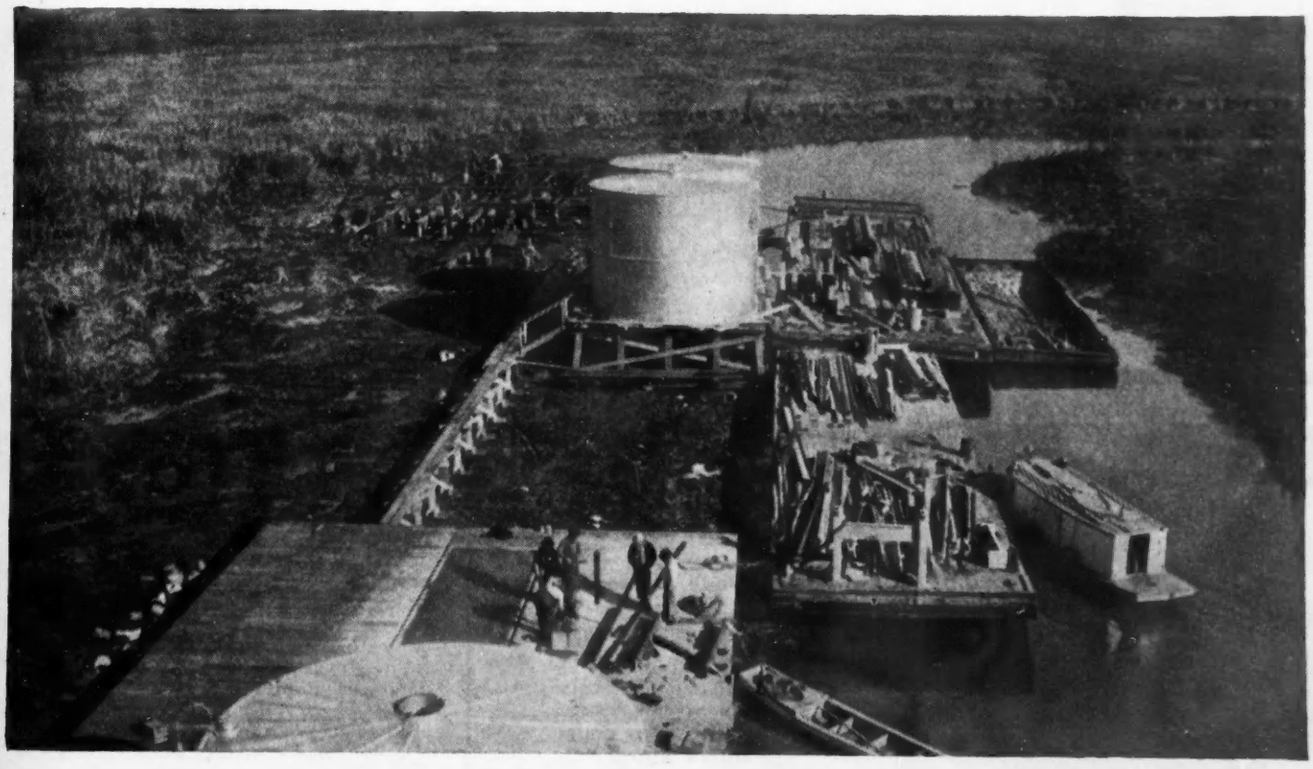
Lake Charles.—Amerada Petroleum Corporation and Louisiana Land & Exploration Company's State 1, Black Prince Island prospect, Section 13-15s-20e, St. Charles Parish, recovered 1800 feet of 33.2 gravity pipe line oil on a 12-minute drill-stem test through ¼-inch chokes with a 140-pound pressure after casing was perforated with 10 shots in Miocene sands from 6820 to 6830 feet to establish the first oil field for St. Charles Parish. July 30, screen and liner were being run to complete.

State 1 was drilled to 8706 feet in salt after logging top of the salt at 8632 feet. This is the first salt dome discovered in St. Charles Parish. It was plugged back to 6855 feet after 9⅝-inch was set at 7124 feet. A drill-stem test from 6820 to 6838 feet showed 22 stands of gas-cut mud with a trace of oil through ¼-inch choke on bottom and ⅜-inch choke on top of the testing tool. Another drill-stem test showed 12 stands of oil, 2 stands of salt water, and 1 stand of mud in 11 minutes. A hundred sacks of cement was squeezed through the perforations and then the well was tested again from 6650 to 6653 feet and showed 1 stand of mud. Following the 6653-foot test, casing was perforated from 6820 to 6830 feet where it definitely showed for a discovery well of a new field in the Louisiana Gulf Coast.

State 1 was spudded in April 19, and 20-inch casing was cemented at 230 feet. At 2680 feet a string of 13⅜-inch casing was set.

The Black Prince Island prospect

Tide Water Associated Oil Company's Manhatten Fruit Company, discovery well at Venice, Plaquemines Parish. This is the third well drilled on the east side of the dome.



Before drilling the discovery well at Long Lake, Lafourche Parish, Fohs Oil Company and Pilgrim Exploration Company had to dredge a two-mile canal from the Intracoastal canal. Workers are shown finishing the piling foundation and are ready to start constructi on of derrick for State 1.

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SHREVEPORT, LOUISIANA

was discovered by reflection seismograph by Louisiana Land & Exploration Company and Amerada Petroleum Corporation. The operators leased around 7000 acres in the area after shooting. Felmont Oil Corporation has around 1200 acres in the district.

The Texas Company's Horseshoe Bayou 1, on Horseshoe Bayou, Section 40-17s-9e, St. Mary Parish, may open the second-deepest producing field in the Louisiana Gulf Coast. A test made last week at 10,690 feet showed oil and salt water. Another attraction in the eastern part of the coastal country of Louisiana was the discovery of a new salt dome.

The Texas Company made a test on Horseshoe Bayou 1 after casing had been perforated with 115 holes from 10,670 to 10,690 feet and showed 900 barrels of salt water and 100 barrels of 38 gravity oil through a ⅛-inch choke with a tubing pressure of 1300 pounds. Cement was squeezed through the perforations in order to shut off the salt water flow. Casing will be perforated again the coming week at a higher level for another test.

This test was drilled to 12,261 feet where it blew out and caught fire. The derrick floor was ruined and the company was forced to move in a drilling barge. After new materials were moved in the hole was cleaned down to 11,000 feet. While drilling by junk at 11,325 feet the pipe became stuck again and the drill pipe was shot at this depth. The hole plugged back to 10,759 feet and casing was perforated at 10,690 feet.

If The Texas Company is successful in shutting off the salt water and the well comes in flowing pipe line oil, it will be second only to Lirette field, Terrebonne Parish, for deep producing honors in the Louisiana Gulf Coast. Lirette is producing from 11,630 feet.

SOUTH LOUISIANA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
DOG LAKE—		
Texas Co., L. L. E. Dog Lake 5	1480	6904
EAST HACKBERRY—		
Texas Co., State 22	660	7678
JENNINGS—		
Cosmo Pet. Co., Fee 12	2	1238
ROANOKE—		
Humble, Kratzer 6	32	8710
TEPETATE—		
Continental, Veronie B-2	288	8302
ACADIA PARISH—		
John Mayo et al, Bank of Commerce 1, e of Tepetate, 19-7s-1e	*	9008
EAST FELICIANA PARISH—		
G. C. Koch et al, Andrews 1, Clinton area, 9-2s-3e	*	6137
VERNON PARISH—		
Geo. J. Greer, Commercial Bank 1, se of Leesville, 9-1s-8w	*	5019

*Failures; †Junked; ¶Million cu. ft. gas.

New Salt Dome Discovered at Potash

Near the Mississippi river in Plaquemines Parish, Humble Oil & Refining Company and Texas Gulf Sulphur Company discovered a new salt dome when Orleans Levee Board 1, 11-18s-15e, Potash prospect, encountered salt at 1465 feet and cored the formation to 1468 feet.

Orleans Levee Board 1 logged top of cap rock at 804 feet and set 8-inch casing. The establishment of Potash as a salt dome will lead to further development around the flanks of the dome for oil. The interests' Orleans Levee Board 2 was down to 845 feet last week and encountered a slight showing of oil in sand from 840 to 842 feet.

The Potash salt dome was farmed out by Humble Oil & Refining Company to Texas Gulf Sulphur Company for development. This prospect was discovered by reflection seismograph by Gulf Refining Company and Humble Oil & Refining Company in 1928. There has been no development on the prospect until Orleans Levee Board 1 was drilled. Five locations have been made.

The discovery of Potash salt dome last week makes the second important strike in Plaquemines Parish during the past two weeks. Tide Water Associated Oil Company discovered a new oil field the previous week on the east flank of Venice salt dome.

Jefferson Island Salt Dome Wildcat Testing

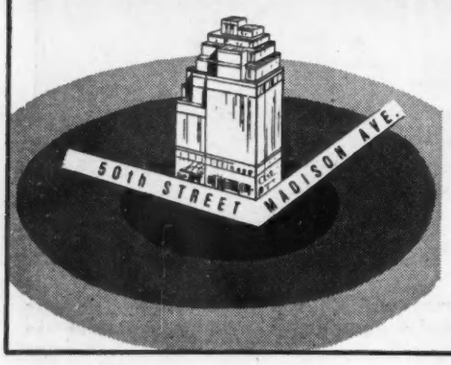
On the Jefferson Island salt dome, 12s-5e, Iberia Parish, Jefferson Lake Oil Company's Lake Peigneur 414 was being tested at 6686 feet. It was swabbed last week and failed to flow. Washing was commenced in order to lighten the mud in the hole. Lake Peigneur 414 was drilled to 7069 feet in sand showing oil. Top of broken formation was logged at 7056 feet and oil sand was encountered at 7060 feet. While running a string of 5-inch casing with 10 feet of screen on bottom, it became lodged at 6686 feet.

On the north side of East Hackberry field, Cameron Parish, The Texas Company completed State East Hackberry 22, 12-12s-9w, at 7678 feet flowing 660 barrels of 35.8 gravity pipe line oil daily through a ¼-inch choke. Oil sand was logged from 7630 to 7677 feet and 7-inch casing was set at 7628 feet.

The third good producer was completed at Dog Lake field, Terrebonne Parish, last week by The Texas Company in a sand shallower than any well producing in the field. L. L. E. Dog Lake 5, 5-22s-16e, came in flowing 1480 barrels of 40.7 gravity pipe line oil daily through a ⅜-inch choke with a tubing pressure of 1150 pounds. The well was completed in sand topped at 6836 feet. Seven-inch casing was set at 6868 feet.

Fohs Oil Company and Pilgrim Exploration Company announced the third location for Long Lake field, Lafourche Parish. State 3 is 1320 feet north of the discovery well, Section 77-17s-19e.

POPULAR AMONG OIL MEN and THE BEST LOCATION IN NEW YORK



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NORTH LOUISIANA

Rodessa-in-Texas gets half-mile extension.

* * *

Arrange Converse test to go 9500 feet deep.

* * *

Lisbon south extension flows 37 barrels hour.

Shreveport.—Production in Rodessa on the Cass County, Texas, side of the field was extended a half mile northwest last week with completion of Bay Oil Company's Cobb 1, George Crowder Survey, at 6105 feet, flowing 30 barrels of oil per hour through ½-inch tubing choke. With elevation of 270 feet, this test logged top of anhydrite at 5250 feet and top of massive at 5520 feet. Hill sand was topped at 5904 feet and the Gloyd at 6016 feet.

The same company's W. B. Parker 1, same survey, between Cobb 1 and production, was completed at 6030 feet, flowing 18 barrels per hour through ½-inch tubing choke with tubing pressure 50 pounds and casing pressure 400 pounds. The Mitchell saturation was logged from 6015 to 6028 feet and Gloyd at 5975 feet; elevation is 244 feet.

Clark Oil Corporation's Madie Sharp A-2, Section 4-23n-16w, on the Caddo Parish side of the field in the north extension, failed to show any oil in a test but showed estimated 30 million feet of gas daily. It logged a porous zone from 5969 to 5979 feet although believed to have missed the Mitchell producing horizon. The porous zone may be a stray horizon. Test was made through open 2½-inch tubing with closed pressure on tubing 2200 pounds and on casing 2050 pounds.

Edge Well Produces

An edge producer on the Louisiana side of the northwest part of the field was completed by W. C. Feazel in Pitts 1, Section 8-23n-16w. At 5949 feet it flowed 18 barrels hourly through 5/16-inch tubing choke with tubing pressure 200 pounds and casing pressure 800 pounds.

R. W. Norton was running liner and tubing for another test in the lower Marine horizon in Payne 1, SE SE 27-23n-16w, plugged back to that horizon after penetrating Permian salt 16 feet to 11,486 feet.

Standard Oil Company of Louisiana continued testing J. W. Farmer 1, NE NW 7-23n-15w, north outpost to the northeast, at 6059 feet. Blackwell Oil & Gas Company dislodged hung 5-inch casing and cemented the string in Neugent 3, NE SE 8-23n-15w, for a test of the Petitt (basal Glen Rose) after plugging back to 6750 feet from 7202 feet in Travis Peak.

In the Lodi extension of the Rodessa field in Marion County, Fohs Oil Company was preparing to acidize Mary McReynolds 1, A. de los Santos Coy Survey, at 6063 feet after it was swabbed with a showing of oil but refused to flow. The Lodi producing horizon was logged from 6029 to 6051 feet; elevation is 276 feet. The test is a south offset to The Hunter Company's E. W. Fonda 1, same survey, the first well in that headright.

Converse test going to 9500 feet on community

Shreveport. — Kirk-Greenway and Deep Rock Oil Company's Whitney Corporation 1, NE NE 8-9n-13w, Sabine Parish, deep test in the shallow Converse field, will be drilled to 9500 feet, several companies having contributed to take the hole to that depth. Last week the test was drilling at 8275 feet.

H. L. Hunt and Seaboard Oil Corporation were preparing to abandon Bodcaw 1, C SE 30-14n-5w, Bienville Parish, wildcat at 7784 feet in the Travis Peak. The test showed some porosity in electrical log at 7309-16 feet and 7320-29 feet in Petitt but not sufficient to warrant a test. Elevation was 215 feet.

Hunt has contracted with Seaboard Oil Corporation to drill three tests on the latter's block in the Bear Creek gas-distillate field, Bienville Parish, for an interest in the block. Location for the first of the three is Commercial Bank 1, NE NW 3-16n-6w.

Title work is being done on J. P. Evans' 4000-acre block in Township 17 north, Range 9 west, Webster Parish, where he has three gas-distillate wells completed but no outlet. The titles are being checked by United Gas Public Service Company which is reported planning to take gas rights on the block and a lower Marine test will be drilled.

Gulf Oil Corporation, which has been highly successful in spreading northeastward at Lisbon, Claiborne Parish, continues to add to its holdings in that "trend," leasing in 33-21n-4w, more than a mile outside production. Lyons & Neely have assigned NW NE 6-20n-4w, Lincoln Parish, Lisbon district, to W. F. Lacey. J. C. Tippett has leased NE SE 1-20n-5w, and Morelock, Bevill and associates have sold to Olson Brothers and associates NW NW 31-21n-4w. In the old Haynesville area, Claiborne Parish, Gulf Oil Corporation, F. F. Meadows and Continental Oil Company are adding to their holdings.

F. W. Burford is adding to his holdings in the northern part of Township 23 north, Range 15 west, north of production in the northeast nose of Rodessa.

Grogan 1500-foot north offset ready for production test

Shreveport.—A 1500-foot north offset to Pullman Oil Company's Ramsey discovery well in the new Grogan oil field, Section 36-11n-11w, DeSoto Parish, last week logged saturated Paluxy sand nine feet higher than the discovery well and after electrical tester was run had 7-inch casing cemented at 2924 feet; total depth is 2946 feet.

The new test, Ramsey 3, SE NE NW 36-11n-11w, logged top of saturation at 2931 feet with the best saturation at 2934-37 feet which was sand and lime, and pure sand from 2941-44 feet.

Paul Miller's P. A. Boren 1, NE SW 36-11n-11w, to the south, also logged saturation in the 2950-foot horizon and was preparing to set casing.

Pullman Oil Company's Ramsey A-1, discovery well, which had been off production for several days due to clogged liner, was put back on production July 29, and in the first 17 hours produced 169 barrels of net oil and 41 barrels of water through 2-inch tubing.

23 Louisiana Permits

Shreveport. — Twenty-three drilling permits were issued last week by the minerals division, Louisiana Conservation Commission, of which 14 were for tests in North Louisiana divided among the following parishes: Caddo 3, including 2 in Rodessa; Claiborne 7, all for Lisbon; Morehouse 2; Red River 1; Union 1. Those in South Louisiana were divided among the following parishes: Acadia 1; Calcasieu 2; Cameron 1; Evangeline 1; La Fourche 1; St. Mary 1; Vernon 1.

Lisbon production extended half a mile farther south

Shreveport.—The southeast edge of the Lisbon field in Lincoln Parish was extended a half mile south last week when Lyons & Neely and associates' Aycock 1, C S½ NW SW 6-20n-4w, was completed at 5382 feet, flowing 37 barrels of oil per hour through ½-inch tubing choke. Saturation was logged from 5360 to 5375 feet; elevation is 338 feet.

The well was completed after use of acid, it having flowed by heads before treatment. Toward production in the same part of the field Crown Central Petroleum Corporation's T. E. Patton 1, SE NE 6-20n-4w, was coring for porosity at 5291 feet. On the north edge of the field Henry Hanbury's R. Vaughn 1, SW SE 25-21n-5w, was waiting on cement to set on final string of of casing. One mile north of produc-

tion T. L. James & Company was rigging up to run casing and test Baker 1, Section 25-21n-5w, recently abandoned, the only failure in Lisbon. Four feet of porosity will be tested.

A southeast edge test had set final string in Sells Petroleum Company's Jones 1, SE SE 31-21n-4w.

Three miles southwest of production, J. R. Bevill and associates were preparing to core ahead in Edmonds 1, NE NE 16-20n-5w, that was dry at 5328 feet.

Lisbon's 60 wells get 12,000 barrels allowable

Shreveport.—The Lisbon field's allowable for August was placed at 12,000 barrels, based on 60 wells, by William G. Rankin, Louisiana conservation commissioner. This allowable is based 75 percent on acreage and 25 percent on bottom-hole pressures.

The order set the present field area allotted to oil wells at 1172.3 acres, with the acreage factor being 1 acre equals 7.67722 barrels.

The total bottom-hole pressure was given as 82,037 pounds, with a bottom-hole pressure factor of 1 pound to .03657 barrels.

Production allotted to companies follows: Atlantic Refining Company, 2 wells, 431 barrels; J. B. Bond, 2 wells, 372 barrels; DeArmand & McMillan, 8 wells, 1601 barrels; Gulf Refining Company, 8 wells, 1624 barrels; Harry Hanbury, 2 wells, 433 barrels; Hollyfield & McFarlane, 2 wells, 420 barrels; Love Brothers, 3 wells, 432 barrels; Lyons & Neely, 10 wells, 2056 barrels; Magnolia Petroleum Company, 5 wells, 1077 barrels; Oden & Evans, 2 wells, 386 barrels; Ray P. Oden, 2 wells, 396 barrels; Red Iron Drilling Company and E. W. Gill, 2 wells, 426 barrels; Red Iron Drilling Company and Scout Oil Corporation, 4 wells, 805 barrels; C. R. Schuster, 2 wells, 399 barrels; Scout Oil Corporation, 2 wells, 397 barrels.

ARKANSAS FIELDS

Show boosts hopes for deeper oil at Schuler

El Dorado, Ark.—The Schuler field, Union County, apparently had added its fifth oil producer from the Permian late last week when Marine Oil Company's Feel, NW SW SW 17-18-17, after being rocked with gas, began to flow oil at an estimated rate of 60 barrels hourly through ⅜-inch tubing choke after casing was perforated from 5588 to 5614 feet.

FLASH

Lion Oil Refining Company's Edna Morgan B-2, NE NW SE 18-18-17, Schuler field, was completed Friday flowing 102 barrels hourly through ⅜-inch tubing choke, and making estimated two million feet of gas daily after casing was perforated at two levels, 5760-74 and 5804-11 feet.

It is Schuler's sixth producer.

The same company's Edwin M. Jones 1, SW NW SW 17-18-17, had an important development for Schuler during the week when it recovered 12 feet of a core from 5870 to 5885 feet, 2½ feet anhydrite and shale, four feet sandy lime, with a stain of oil and the last six feet soft lignitic oil sand, well saturated. However, the sands deeper than present production appear coarser. This showing is the best so far encountered at so deep a horizon at Schuler and may revive hope of getting deeper production in wells that missed it in the upper lenses. Elevation of this test is 216 feet.

Phillips Petroleum Company's Justiss 1, Lot 6, NWc 18-18-17, also logged oil stains from 5952 to 5961 feet; elevation is 248 feet.

Sixteen wells in the field are drilling.

Columbia County center of wildcat activity

El Dorado, Ark.—Columbia County last week continued to be the "hottest spot" for South Arkansas wildcat prospecting. Around the Tide Water Associated - Seaboard Oil Corporation's block centering in Section 24-17-19, Arkansas-Louisiana Gas Company has had a geophysical shooting unit at work, and Iowa Payne Oil Company has been taking some leases.

In the southern part of Township 16, Range 19, H. L. Hunt has leased several hundred acres, and in Township 15, Range 20, W. N. Searcy has been leasing. Felmont Oil Company of Houston has been buying mineral rights in Township 17, Range 19.

8 Arkansas Starts

El Dorado, Ark.—Eight drilling permits were issued last week by the Arkansas Board of Conservation as follows:

Miller County 6, as follows: Eunice Westbrook's Eunice Westbrook 1, SE SE 1-20-28; F. L. Westbrook's F. L. Westbrook 1, SEc NE SW 1-20-28; Loree B. Hortman's G. W. Farmer 1, SE SE 13-20-28; F. A. Giffin's A. J. Cross 1, SE NE 11-20-28; Wm. Monroe Layton and Benjamin T. Cook's W. G. Farmer 2, NW NE 13-20-28.

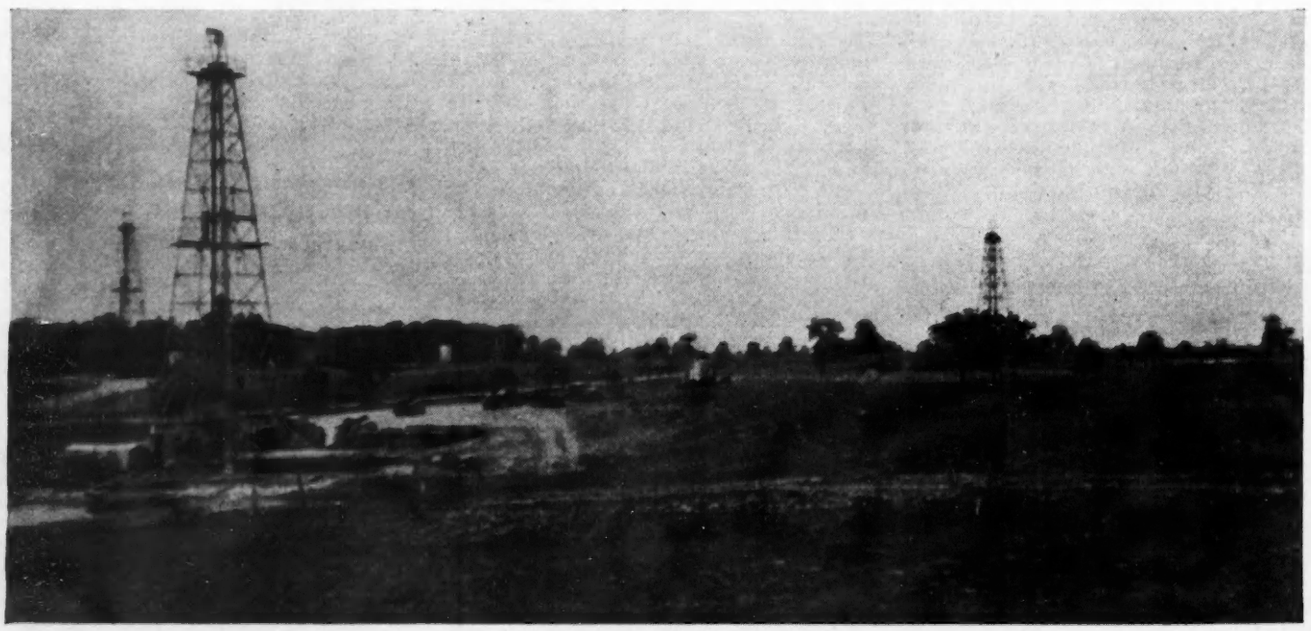
Ouachita County: Tide Water Associated Oil Company's Mrs. S. A. Graves 1, C NW SE NW 33-13-18.

Union County: Z. J. Spruiell's Justiss 1, NE NE SE 7-18-17.

ARKANSAS Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
NEVADA COUNTY (Troy)—		
Benedum & Trees, Grove 1, 10-14-20 (sec. completion)	125	2186
Powell Briscoe, Ritchie 2, 10-14-20 (sec. completion)	10	1258
UNION COUNTY (Schuler)—		
Alice-Sidney Oil Co., Powledge 1, 7-18-17	*	6005

*Failures; †Junked; ¶Million cu. ft. gas.



Scene in the new Clay City field in Illinois, the most important development in the general area in a number of years. (Photo courtesy Chas. A. Ward, editor The Pure Oil News).

EASTERN FIELDS

Fifteen starts in Clay County, Illinois, area

Mattoon, Ill.—Fifteen locations were reported for the active Clay City area of Illinois last week. Wiser Oil Company started three more wells on the discovery lease. They are Smith 2, SEc NE 28-3n-8e; Smith 3, NW SE NE 28-3n-8e and Smith 4, SE NW NE 28-3n-8e, all building rig.

Pure Oil Company was getting underway at the other 12 starts for the area. These include Poppe 1, NW NE SE 28-3n-8e, spudding; Poppe 2, NEc SE 28-3n-8e, a rig and Poppe 3, NE NW SE 28-3n-8e, a rig. Chaffin 1, NWc SW 27-3n-8e, was a rig, and O. Poppe 1, SWc NW 27-3n-8e, was a location.

D. L. Moseley 1, NW SE NE 33-3n-8e, was a rig; Nicholas Moseley 2, 33-3n-8e, was a rig; Weiler 5, NW NE SE 33-3n-8e, was a rig; Smith 1, NEc SW 33-3n-8e, was a rig and B. Travis 4, SE NW NE 33-3n-8e, was a rig.

A wildcat test, also started by Pure Oil Company was R. H. Neeley 1, SEc NE 22-3n-10e, which had rotary rig on the ground and was digging pits.

Oil and gas power meet at State College

State College, Pa.—The tenth national Oil and Gas Power Meeting of the American Society of Mechanical Engineers will be held on the campus of Pennsylvania State College here August 18-21 under the auspices of the oil and gas power division and the Central Pennsylvania section of the society and the school of engineering of the college.

The program follows:

August 18, 2 p. m.—Progress Reports Session: Ernest Nibbs, Electric Boat Company, chairman; progress reports by American Locomotive Company, Atlas-Imperial Diesel Engine Company, The Buda Company, Caterpillar Tractor Company, Davenport-Besler Corporation, De LaVergne Engine Company, General Motors Corporation, Ingersoll-Rand Company and Nordberg Manufacturing Company; E. C. Magdeburger, bureau of engineering, United States Navy Department, "U. S. Navy Contributions to Diesel Engine Development."

August 19, 9:30 a.m.—Fuels and Lubrication Session: Carl Behn, National Supply Company of Delaware, chairman; C. G. A. Rosen, Caterpillar Tractor Company, "Lubrication Problems in Connection with High-Speed Diesel Engines"; W. F. Joachim, U. S. Naval Experiment Station, "Correlation of Laboratory Tests on Fuel Oils With Field Operation."

August 19, 2 p.m.—Transportation Session: Harte Cooke, American Locomotive Company, chairman; O. D. Treiber, Hercules Motor Company, "Recent Developments in Automotive Type Diesel Engines"; Martin Schreiber, Public Service Coordinated Transport Company, "Diesel-Electric Bus Operation."

August 20, 9:30 a.m.—Operating Session: L. M. Goldsmith, The Atlantic Refining Company, chairman; H. C. Major, chairman oil engine power cost sub-committee, "1936 Oil Engine Power Cost Report"; W. B. Walraven, Springfield, Ill., sanitary district, "Sewerage Gas Engines"; Glenn C. Boyer, Burns & McDonne Engineering Company, "Waste Heat Recovery From Diesel Engines"; J. S. Chandler, Pennsylvania State College, "Penn State Method of Testing Diesel Fuels."

August 21, 9:30 a.m.—Research Session: Dr. P. H. Schweitzer, Pennsylvania State College, chairman; Professor J. K. DeJuhasz, Pennsylvania State College, "Oil Flow Through Fuel Nozzles"; Gustav Egloff, Universal Oil Products Company, "Polymerization of Fuel Oils."

Salem, Ore.—Organization of Blue Ridge Oil Company was perfected here last week for the purpose of developing 100 acres of government-owned land in the Frannie, Wyoming, district.

Officers of the company are Fred V. Gordon, former vice president of the California Petroleum Corporation, president; Verne E. McIntyre, Salem, vice president; Donald A. Young, secretary-treasurer, and E. J. Preston, general manager.

MICHIGAN
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARENAC COUNTY—		
Hal-Be-Oyle Co., Barrie 1, ne ne se 9-20n-4e	100	2620
Bergeron 1, ne sw ne 15-20n-4e	¶2	1365
Fletcher & Leyman, Swaffield 1, c sw 10-20n-4e	¶8½	1191
GLADWIN COUNTY—		
Mammoth P&R, Manyet 2, sw ne sw 3-18n-1w	200	3621
Ockerman 5, se ne nw 11-18n-1w	950	3633
Sun, Strochkirch 3, se se sw 3-18n-1w	800	3652
Luks 1, nw nw ne 10-18n-1w	1200	3648
Turner Pet. Co., Shranzs 1, se se se 3-18n-1w	65	3660
Rex Oil & Gas Co., Jacob 4, 11-nw se nw 18n-1w	1500	3618
Franklin Pet. Co., State A-3, sw ne ne 11-18n-1w	300	3630
Wicklund Dev., State B3, ne sw ne 11-18n-1w	300	3622
Socony Vacuum, Dalley 3, se se nw 12-18n-1w	300	3641
Mich Refiner, Frances 3, nw nw nw 14-18n-1w	650	3616
M. L. Jorgenson, Armstrong 1, se sw nw 23-18n-1w	*	3690
Smith Pet. Co., Covoch 1, nw nw se 23-18n-1w	25	3607
Bell & Mark, Arkwright 1, se sw ne 35-18n-1w	250	3608
Gordon Oil Co., State A3, se se ne 36-18n-1w	100	3615
ISABELLA COUNTY—		
J. W. McIntosh, Epple 1, ne ne se 19-15n-3w	*	3666
MECOSTA COUNTY—		
Daily Crude Oil Co., Hutchins 1, nw nw nw 8-15n-7w	*	3828
MIDLAND COUNTY—		
Pure, Corning B7, s½ ne nw 12-13n-2w	190	3436
MONTCALM COUNTY—		
R. M. Burch, Dennis 1, c nw 5-12n-9w	*	1202
OGEMAW COUNTY—		
Smith Pet. Co., Ellis 2, sw se se 14-22n-1e	60	2861
SAGINAW COUNTY—		
Darke Bros., Hart 1, ne ne sw 11-11n-3e	*	3173

*Failures; †Junked; ¶Million cu. ft. gas.

EASTERN FIELDS
Completions

OHIO

Company, Well and Location	Init. Prod. Bbls.	Depth
ASHLAND COUNTY—		
Kline & Co., Crittenden 2	¶	1250
ATHENS COUNTY—		
Carpenter & Glazier, Smith 19	7	320
D. T. Orndoff, Kasler 1	¶.09	1430
COSHOCTON COUNTY—		
Hulse & Kundts, Mossholder 2	130	3092
GUERNSEY COUNTY—		
Wilbur Keith, Cherry 1	*	1382
HOCKING COUNTY—		
J. B. Dawson, Carbon Coal 6	25	3395
Franklin Trust Co. et al, Cobb & Bradley 21	23	3386
HURON COUNTY—		
A. C. Leathers, Dayton Reynolds 1	¶	871
KNOX COUNTY—		
Preston Oil Co., Jones 1	*	3120
LICKING COUNTY—		
Rutlege & Mossholder, Teagarden 7	5	630
Hope Const. & Ref. Co., Elliott 3	2	680
Emerald Petroleum Co., Cochran 4	2	725
MEIGS COUNTY—		
Ohio Fuel Gas Co., Rose 1	*	2075
MONROE COUNTY—		
Bay O&G Co., Burkhart 6	¶.10	1528
N. T. Staudt, Piat 1	¶.10	2875
MORGAN COUNTY—		
C. E. Morris et al, Harker 3	3	506
Speary O&G Co., Starling 1	¶.33	930
MUSKINGUM COUNTY—		
Scott et al, Myers 4	125	3210
E. H. Everett Co., Varner 3	50	3175
OTTAWA COUNTY—		
Packer Creek Oil Co., Stresher 1	¶.33	1390
WASHINGTON COUNTY—		
Bachelor & Sons, Skeets 14	3	537
Frank Kerr, West 21	1	725
Beardmore Gas Co., Rauch 2	¶.03	1405
F. M. Russell et al, Lorentz 3	*	670
W. W. Walterson, Evans 14	*	585
Evans 15	*	581
Francisco 2	*	548
WAYNE COUNTY—		
Harmen & George, Howey 1	¶.12	2982
WYANDOT COUNTY—		
J. A. Blackmer, C. S. Grubel 2	2	1479

PENNSYLVANIA

GREENE COUNTY—		
Cochran & Cochran, Strope 3	6	3517
Carnegie Nat. Gas Co., Titus 1	¶.18	3030
Equitable Gas Co., Griffith 1	¶	3195
WASHINGTON COUNTY—		
Carnegie Nat. Gas Co., Farabee 2	¶.59	2702
Henderson et al, Bell Hrs 1	¶.04	2660

WEST VIRGINIA

BRAXTON COUNTY—		
Pittsburgh & W. Va. Gas Co., Dobbins 7583	*	2697
Howell 7591	*	2736
CALHOUN COUNTY—		
Simmons Gas Co., Brannon 4	¶4.50	2175
Carper & Foglesong, Groves 1	*	2130
GILMER COUNTY—		
Pittsburgh & W. Va. Gas Co., Hays & King 2	¶1.00	1584
S. A. Hays 7619	¶.25	1562
Paul Weekley, R. Woodyard 1	¶.02	1760
KANAWHA COUNTY—		
Columbia Carbon Co., S. G. Jones 1	¶8.61	5097
Octavia Pauley 1	¶4.35	5045
W. D .Lewis 16	¶1.00	4687
MARION COUNTY—		
Monroe & Laughlin, Moore 1	¶.20	3040
Hope Nat. Gas Co., Fettey 3	*	3432
RITCHIE COUNTY—		
Moats & Richards, C. Ingraham 1	¶.07	1768
Eastern P&R Co., Rutherford Bros. 26	*	1967
ROANE COUNTY—		
D. H. Bland et al, Samuel Shafer Hrs 1	25	1660
UPSHUR COUNTY—		
Cumberland & Allegheny Co., I. M. & T. Smith 1	¶	4396
WAYNE COUNTY—		
United F. G. Co., Adkins 4738	¶.32	3860
WETZEL COUNTY—		
Hope Nat. Gas Co., O. W. Yeater 1	20	3220
Carnegie Nat. Gas Co., Wm. Gorby 1	2	3210
WIRT COUNTY—		
W. C. Patterson, Robinson Pet. 19	1	....

KENTUCKY

LEE COUNTY—		
Price Fraley et al, A. Combs 4	25	....
Wittmer Oil Co., C. J. Tipton 2	10	....
Frank Fitch, Crabtree & Sales 1	*	....
OHIO COUNTY—		
Jess Ellis, Dave King 13	10	....
Cox & Acton, A. Johnson 2	¶2.3	1150
POWELL COUNTY—		
B. & B. Oil Co., F. Rogers 6	3	....

*Failures; †Junked; ¶Million cu. ft. gas.

CALIFORNIA FIELDS

West Coast's deepest producer killed to go deeper.

* * *

New and deeper sand revives drilling at Rosecrans.

Los Angeles.—The latest deepest commercial producer of oil in California is making 1210 barrels of 46.7 gravity oil, cutting 8 percent fresh water and a little drilling mud, with bottom at 10,753 feet. The new record holder is Kettleman North Dome Association's No. 4-18J, in Section 18-21-17, an extension of nearly one mile of the proven area of Kettleman Hills North Dome. This hole was spudded May 2, 1936, and the oil sand was topped at 10,739 feet.

When 4¾-inch liner, including 33 feet of perforated, was run, it stuck 20 feet off bottom. The tubing is 3-inch and was landed at 9004 feet. The casing record for the hole included 600 feet of 16-inch, 8387 feet of 9⅝-inch, with 6⅝-inch cemented at 10,715 feet. Top of the Temblor formation was picked up at 7822 feet.

The well had cleared up to four percent cut when it was killed. The aluminum liner, which stuck 20 feet off bottom, is being drilled out and it is likely hole will be drilled deeper in an effort to find extent of the oil sand.

The new well was placed on production July 22 for an initial rate of 1150 barrels a day of 46.7 gravity oil, cutting 18 percent fresh water and drilling mud. On the second day it was flowing at the rate of 1210 barrels of 46.7 gravity oil, cutting 8 percent of fresh water and a little drilling mud. It was flowing through a 50/64-inch choke with a pressure of 2400 pounds on the tubing and 1800 pounds on the casing. It was making 19,500,000 cubic feet of gas.

The oil sand is classified as Eocene formation, and corresponds to the sand picked up by Lillis Welch 1, a wildcat drilled about half a mile away, but which never produced. The new well is about 200 feet higher than Lillis Welch 1.

State Depth Record

The new well establishes a new much deeper sand for the North Dome area, and probably means that a number of wells on the old proven area can be drilled deeper for new production of a high gravity. It also takes the record for the deepest producer in California away from Tide Water Associated Oil Company's McGonigle 12 at Ventura Avenue, which was completed January 17, 1937, at a total depth of 10,569 feet for 650 barrels of 30 gravity oil.

New Depth at Rosecrans

The development of a new deeper sand in an old field at Rosecrans in Los Angeles County, was given new impetus when Universal Consolidated Oil Company's Trust 1 was completed at 7580 feet for 400 barrels of 33.9 gravity clean oil. It is thought the well will further increase its production. In this hole, 8⅝-inch was cemented at 7430 feet. It had been plugged back to 7546 feet. Union Oil Company's Rosecrans 16 is producing 505 barrels of 33.2 gravity clean oil, with bottom at 7560 feet. The company has made location for Rosecrans 17. Barnsdall Oil Company is drilling two wells in the field, Bolsa Chica Oil Corporation one, as is A. N. Macrate. All of them are planning to produce from the new deep zone.

The old Torrance field in Los Angeles County is also becoming active again, and six holes are now being drilled. All of the new wells are going after deeper production, below 4000 feet. This has been known as a comparatively shallow field for a number of years, producing low gravity oil. There are a large number of idle producers at Torrance, completed at shallow depths. In the early days of the field, operators were liberal with land owners and promised big royalties. Some of the royalties were so large that operators could not operate the wells at a profit after production dropped. Then when operators asked land owners for a lower royalty, and were refused, the wells were shut in. If the land owners would make new contracts, more wells would be on production.

Several years ago, there was a drilling boom at Lawndale in Los Angeles County, but the wells did not pan out. Now several operators are taking over old holes, with an agreement to drill them deeper. At least three concerns are in process of organization with an idea in view of taking over old holes to be deepened. Brown & Young's Hokom 1 cored some nice looking oil sand, top at 6786 feet, and now with bottom at 6812 feet. This concern has made location for another test, soon to be started.

In the Greeley area of Kern County, Standard Oil Company's No. 11-4, Section 20-29-26, total depth 7804 feet, is good for 1970 barrels of 50 gravity oil, with 31,000,000 cubic feet of gas. In this hole, 9-inch was cemented at 7635 feet. The tubing pressure was 500 pounds while the casing pressure was 500 pounds. The flow is through 104 feet of perforated. This field was discovered by Standard Oil Company and it now appears it controls most of the acreage that will be productive.

Standard Oil on July 26 completed No. 11-6, Section 17-29-26, in the new Greeley field, for 2000 barrels of 38.8 gravity oil, with bottom at 7815 feet and 9-inch cemented at 7705 feet. Tubing pressure ranges from 500 to 600 pounds while casing pressure is slightly better than 1500 pounds.

Garrison, N. D.—Work on a McLean County test, between Garrison and Underwood, is to be resumed soon by the Hermon Hanson Oil Syndicate, according to A. L. Gesche, one of the founders of the company who has arrived here to supervise operations.

CALIFORNIA

Completions

Company, Well and Location	Init. Prod Bbls.	Depth
KETTLEMAN HILLS—		
Kettleman No. Dome Assn. No. 4-18J	1210	10,753
FRUITVALE—		
Gulf, Martin 2	180	3875
GREELEY—		
Standard, No. 11-4	1970	7804
KERN FRONT—		
Associated Holding Corp., Hansco 1.	75	1960
Calif. Star Oil Co., No. 10-8	150	2702
MOUNTAIN VIEW—		
Standard, Mabry 5	300	4800
McKITTRICK—		
A. S. Clore, Laymance 1	25	982
MIDWAY-SUNSET—		
C.C.M. Oil Co., No. 32	130	2700
Ethel D. Oil Co., No. 43	50	1435
MOUNT POSO—		
Ring Oil Co., Bowles 29-3	300	1753
Shell, Security 21	135	1832
SANTA MARIA VALLEY—		
Pacific Western, Hobbs 1	340	4225
KERN COUNTY—		
East Edison Oil Co., No. 1	*	1890
C.C.M. Oil Co., Carter 1	*	5420
STANISLAUS COUNTY—		
Coast Explor. Co. No. 1	*	6311
TULARE COUNTY—		
E. P. Jennings, No. 1	*	2707
DOMINGUEZ—		
Union, Callender 55	145	6700
Shell, Reyes 90	450	7580
EL SEGUNDO—		
Richfield, Elsie 1	3410	7049
HUNTINGTON BEACH—		
West American Oil Co., W. A. 14..	75	4710
LONG BEACH—		
Texas Co., Fields 21	145	4750
REDONDO—		
Calmore Oil Co., C.O.C. 2	100	4000
SEAL BEACH—		
Tide Water Associated, Bryant 16..	140	6510
WILMINGTON—		
Bankline Oil Co., D.H.C. 26	620	3458
General, Patten 4	400	3590
Terminal 4	685	3560
F. C. Hall, Barcus A-1	120	3470
Walt Hughes, Hughes 1	250	3562
A. T. Jergins Trust, No. 4-A	400	3448
No. 8	300	3450
Las Vegas Land & Water Co., Offset 1	1055	3781
Pacific Western, Ronan. Com. 1	250	2953
Pacific Pet. Corp., No. 20-8-2	200	3000
Pongratz Pet. Co., Banning 1	600	3602
Union Pacific Ry. Co., Offset 16	340	3656
28	500	3576
V. R. G. Wilbur, Mutual 3	150	3579
ORANGE COUNTY—		
Mesa Oil Co., Mesa 1	*	7865

*Failures; †Junked; ¶Million cu. ft. gas.

IMPORTANT WILDCAT TESTS

ALABAMA

CHOCTAW COUNTY—Joe Modisett et al's McCorvey 1, se sw sw 20-9n-2w, dr 840 ft, Wilcox shale.

GREENE COUNTY — Greene County Oil Dev. Co.'s R. C. Lett 2, se nw 6-21n-2e, sd 115 ft.

HOUSTON COUNTY — Rice O&G Co.'s Oakley Est. 2, nw sw 9-3n-29e, sd 4975 ft.

ARKANSAS

ASHLEY COUNTY — Phillips Pet. Co.'s Stillions Lbr. Co. 1, s½ sw nw 18-17-9, dr 3250 ft, shale.

CLEVELAND COUNTY—J. R. Lockhart's Hernsberger 1, se ne 16-11-13, dk.

COLUMBIA COUNTY—Robt. Keen's Runyon 1, se ne 1-16-21, woc 13⅜-in csg 90 ft. Standard of La.'s McKean 1, c sw sw 8-16-22, spd dr 660 ft.

HEMPSTEAD COUNTY—Easton, May & Murdock's LaGrone 1, ne ne 5-12-26, woc 131 ft. Davidson & Todd's Smith 1, sw se 1-11-25, sd 1940 ft, shale.

HOWARD COUNTY—Boettcher O&G Co.'s Griffin-Tyson 1, nw nw 28-11-27, dr 2650 ft, top Pennsylvanian 2185 ft.

LONOKE COUNTY—Frank Silver's Chambers Est. 2, 17-2-7, cored sand so, 1495-1500 ft, arr run electrical tester, td 1500 ft. Al Demurs' High 1, ne sw 25-1n-9w, sd 512 ft. Jas. E. Russell's Gunter 1, 17-5-10, dk.

MADISON COUNTY—J. E. & Jno. Handy's Hamlin 1, sw nw se 8-16n-26w, mim.

MONROE COUNTY—J. H. Coker's McClane 1, c ne nw 15-4n-2w, rur.

MILLER COUNTY—Holcomb & Thomasson's Embree Hrs 1, 11-20-28, arr pb & test Gloyd, old td 6514 ft. C. Andrade, III's J. C. Gerald 1, nwc e½ 15-20-28, mim. F. W. Burford's Capps 1, 14-20-28, elev 294 ft, dr 5210 ft. Eason 1, sw se 11-20-28, dr 4931 ft. Eason 2, nw se 11-20-28, dr 5105 ft. Gerald B-1, nec 15-20-28, dr 5208 ft. W. M. Layton's E. S. Terry 1, w½ w½ 1420-28, elev 255 ft, dr 5465 ft, anhydrite & shale. W. L. McClanahan's A. A. Capps 2, swc 11-20-28, dr 2905 ft; A. A. Capps 3, sw se 11-20-28, dr 1500 ft. Robert Bros.'s W. W. Capps 1, se nw se 10-20-28, dr 3003 ft. Larry et al's Treadway 1, 10-20-28, rur. Anding et al's Skipper 1, 11-20-28, rur. H. L. Hunt's Womack 1, sec 10-20-28, rur.

OUACHITA COUNTY—Tidewater Associated's Graves 1, nw se nw 33-13-18, rur.

PIKE COUNTY—Beckwith et al's Hendricks 1, c nw sw 16-8s-25w, claim so 164-66 ft, 176-93 ft, sd 312 ft, sandstone. Wallace & Neill's Tilyou 1, se se 26-8s-24w, mim.

ST. FRANCIS COUNTY—Manning & Martin's Gregg 1, sw nw 20-5n-5e, coring 1556 ft.

UNION COUNTY—Ark. Southern Oil Co.'s Simmons 1, nw ne 15-18-13, Nacatosh sand 2276-80 ft, 7-in csg 2246 ft, td 2281 ft. W. D. Wingfield's Southern Kraft 1, sw ne 18-16-14, elev 124 ft, sd 3526 ft. I. J. Langley's K. K. Langley 1, nw se ne 1-19-18, mim.

CALIFORNIA

FRESNO COUNTY

CANTUA—Western Gulf's Skelley Est. 1, 32-16-15, dr shale 5790 ft.

KERN COUNTY

DEVIL'S DEN—Amerada's Beer 4, 17-26-19, td 2670 ft, pumping 9 bbls, 25 gravity clean oil. Den. Pet. Co.'s Bates 1, 20-25-19, td 4310 ft, in shale, co. Geo. Goodrum's Baron 1, 24-25-18, sd 320 ft. Lube Oil Co.'s No. 1, 2-25-18, td 4280 ft, to deepen.

LERDO—Arkelo Pet. Co.'s Arkelo 41, 23-28-26, td 10,056 ft, fsh for dr pipe.

BENA—Bacal Oil Corp.'s No. 1, 5-30-30, sd 1790 ft in gray sand. Cajalco Pet. Co.'s Brown-Pallette 1, 9-30-30, sd 3570 ft.

ROUND MOUNTAIN—Calif. Western Oil Co.'s No. 3, 12-28-28, dr shale 850 ft. Fremont Oil Co.'s Olcese 1, 26-28-29, dr shale 750 ft, lost circulation. Rudolph Pageman's No. 1, 10-28-29, rig. Pebble Beach Oil Co.'s Olcese 1, 16-28-29, rur. J. J. Tavis' Olcese-Tavis 1, 4-29-29, dr sandy shale, 1421 ft, show in ditch at 1350 ft.

KERN FRONT—C.C.M.O. Oil Co.'s Carter 1, 7-27-27, td 5420 ft, top Vedder at 4670 ft, abd.

WASCO—Continental's K.C.L. A-2, 8-27-24, dr sandy shale, streaks hard shale, 7604 ft. Seaboard-Tide Water Associated's K.C.L. C-1, 26-27-24, sd 10,213 ft.

ROSEDALE—Continental's K.C.L. B-1, 12-29-26, dr sandy shale 10,123 ft.

JASMINE—Doyle Pet. Corp.'s Quinn 1, 15-25-27, td 2956 ft, co.

ARVIN—General's Arvin 2, 27-31-29, grading.

PREMIER—General's Umbsen 1, 36-27-26, dr shale 4380 ft

SAN EMIDIO—Kern Leasing Co.'s No. 2, 14-10-23, sd 310 ft. Union's Morrison 1, 31-11-22, td 2075 ft, ran formation tester, ran perforated, bailing.

NO. KERN RIVER—Hub Oil Co.'s No. 1, 8-28-28, sd 3320 ft.

KERN RIVER—Ray Luse's McNeil 1, 10-28-28, dr shale 2271 ft. Sleeper Ridge Oil Corp.'s No. 1, 15-29-28, spud July 20, rur. Well Developers' No. 1, 16-28-29, bldg rig.

GRAPEVINE—Ohio's Title Ins. D-1, 21-11-19, td 9652 ft, set 6⅝-in at 6637 ft, ran 87 ft of 4¼-in including 26 ft of perforated, landed 6662 ft, in gravel pack, to swab. Reserve Oil & Gas Co.'s No. 33-4, 33-11-19, td 5444 ft, recemented 8⅝-in at 4540 ft. Wilshire Oil Co.'s Tejon 1, 5-10-19, dr brown shale 4756 ft.

ELK HILLS—Richfield's Buena Vista A-1, 7-31-25, grading.

TEN SECTION—Shell's Canal 21-14, 14-30-25, td 8613 ft, wocs 7 in 8275 ft.

FRUITVALE—Shell's Bellevue A-36-31, 31-29-27, dr gray sand 7166 ft.

MOUNTAIN VIEW—Union-Standard's Barubeltz 1, 1-30-28, lcn.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*
‡—*salt water (completions).*
†—*junked and abandoned.*
¶—*million feet of gas.*
abd—*abandoned.*
bbls—*barrels.*
br—*building rig.*
b.s.—*basic sediment.*
csg—*casing.*
co—*cleaning out.*
dd—*drilling deeper.*
dk—*derrick.*
dr—*drilling.*
fsg—*fishing.*
ft—*feet.*
hfw—*hole full of water.*
in—*inches.*
lcn—*location.*
m—*milling.*
mim—*moving in materials.*
mit—*moving in tools.*
mot—*milling on tools.*
n, s, e, w—*north, south, east, west.*
oih—*oil in hole.*
owdd—*old well drilling deeper.*
owpb—*old well plugging back.*
pb—*plugged back or plugging back.*
r—*reaming.*
rog—*rig on the ground.*
rur—*rigging up rotary tools.*
rust—*rigging up standard tools.*
sd—*shut down.*
sdtr—*sidetracking.*
sg—*show gas.*
si—*shut in.*
so—*show oil.*
so&g—*show oil and gas.*
spd—*spudding.*
sr—*straight reaming.*
sw—*salt water.*
td—*total depth.*
ur—*underreaming.*
wih—*water in the hole.*
wo—*workover.*
wocs—*waiting on cement to set.*
wosr—*waiting on standard rig.*

RIO BRAVO—Union's Kernco 1-34, 34-28-25, td 10,310 ft, topped oil sand 10,268 ft, fsh dr pipe.

HUMBOLDT COUNTY—Texas Co.'s Eureka 2, 22-3-1, td 7708 ft, plug 7415 ft, to swab.

KINGS COUNTY—Birch-Royer Oil Co.'s Wm. Orr 1, 5-23-17, sd 3114 ft. Ray Bisconer's No. 2, 11-24-20, sd 1400 ft. Central Calif. Utilities Corp.'s Kettleman-Lakeview 3, 11-23-19, td 1202 ft, plug 1190 ft, sd. Dudley Ridge Dev. Co.'s No. 2, 24-23-20, dr shale 2261 ft. Kettleman View Oil & Gas Co.'s No. 1, 9-22-19, sd 4787 ft. Glen C. Stone's Teeter 1, 25-20-20, sd 1315 ft. Tri-Counties Oil Co.'s Olson 1, 10-23-22, dr shale 5229 ft. Carl W. Willer's Del Sable 1, 11-23-26, lcn.

MADERA COUNTY — Tide Water Associated's Gill 1, 27-12-15, lcn.

EDWARD FORGED STEEL CHECK VALVES

For Boiler and Blowout Preventer Service

600 lb. swp. Screwed Ends. Union Bonnet

Bodies and union nuts of heat-treated forged or rolled steel. Stainless steel ball is guided by two steel ribs. A spring aids in seating. Seat is carefully lapped stainless steel. For use in horizontal or vertical lines. Immediate shipment from large Houston stocks.

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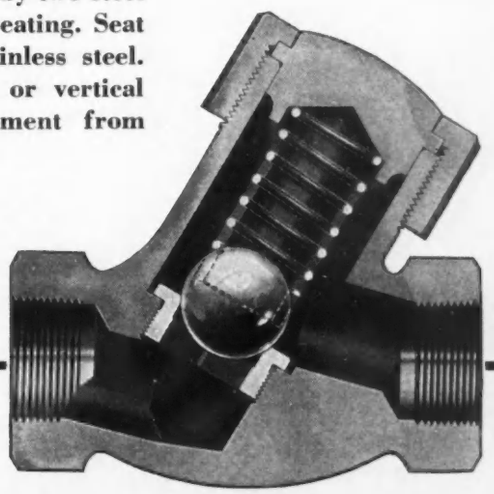
Steam, oil or gas—600 lb. at 750 F.; max. non-shock hydraulic—1000 lb. air temp.; Shell Test—1500 lb. at 125 F. max.



No. 2672 Horizontal
Sizes: ¼" to 2"

MAINTENANCE ENGINEERING CORPORATION

3611 Clinton Drive **Phone P. 3135. L. D. 409** **Houston, Texas**

SAN JOAQUIN COUNTY — Standard's Woods 1, 24-1n-5e, dr gray sand 6800 ft. Texas Co.'s Lawrence-Stephens 1, 8-1-6, dr sandy shale 5200 ft.

SOLANO COUNTY—Amerada's J. C. Hamilton 1, 24-4-2, dr gas sand 4307 ft, top 4265 ft.

STANISLAUS COUNTY — Coast Explor. Co.'s No. K-2-1, 30-4-9, td 6311 ft, in gray sand, abn.

TULARE COUNTY—Amalgamated Oil & Gas Corp.'s A.O.G. 3, 29-24-24, rig. E. P. Jennings' No. 1, 4-24-23, td 2707 ft, abn; No. 2, 33-23-23, rur. Standard's Morris 1, 36-24-23, dr shale 3720 ft. Tulare Dome Oil Co.'s Tulare Dome 1, 17-21-23, rur. L. E. Turner's Glaze 1, 15-22-26, dr sand gray shale 3350 ft.

YOLO COUNTY—Empire Oil & Gas Co.'s No. 1, 8-9-3, lcn. Standard's Hooper 1, 32-9-1, dr shale 2974 ft.

MONTEREY COUNTY—Amil A. Anderson's Hillman 1, 15-24-14, dr shale 1324 ft. California Oil's No. 1, 33-23-15, td 3500 ft, plug 1350 ft, to redr.

SAN LUIS OBISPO COUNTY—Burkholder Oil Corp.'s Clay 1, 14-10-26, sd 3252 ft, will drop from report. Hancock Oil Co.'s Dicks 1, 30-12-33, lcn. A. O. Lewis' Pechal 1 (Moro Bay), 34-30-10, sd 2750 ft. J. D. Martin's Pricco A-4, td 3410 ft, to deepen. Temblor Oil Co.'s No. 1, 22-31-21, dr gray shale 2575 ft. Vanguard Oil Co.'s Clark 1, 26-27-14, rur.

SANTA BARBARA COUNTY—E. C. Arnold's Arnold-Apache 2, 8-8-33, td 5450 ft, r. Crude Oil Dr. Co.'s Crude 1, 19-9-34, lcn. Hancock Oil Co.'s Los Alamos 2, 6-7-32, dr shale 4090 ft, showing oil. Leora Oil Co.'s Fithian 1, 8-4-25, sd 1025 ft. Mid-Western Oil Co.'s Mid-West L-1, 28-4-27, sd 2054 ft. Nine Springs Oil Co.'s Brinkinhoff 1, 9-7-30, sd 3300 ft. 101 Oil Co.'s Hollister 1, 35-5-33, dr shale 630 ft. Tide Water Associated's Leonis 1, 3-6-33, dr lava 1470 ft. United Western Oil Co.'s No. 1, 16-7-30, grade. Valley Oil Co.'s Chief 1, 20-9-34, sd 2315 ft. Vista Del Mar Oil Co.'s Williams 1, 16-4-26, td 2718 ft, sd.

SANTA CRUZ COUNTY—Elba Oil Co.'s Elba 1, 6-12-1, sd 250 ft.

VENTURA COUNTY—El Rio Oils-Canada's El Rio 1, 6-1-21, td 3024 ft, pumping 25 bbls, 11 gravity clean oil. Oxnard Oil Co.'s Vannoi 1, 10-1-22, dr shale 1018 ft. Richfield Oil Corp.'s McFarland 1, 13-2-21, rur. Texas Co.'s Pierce 1, 20-2-21, dr shale 1261 ft. Vaca Oil Explor. Co.'s Livingston 1, 6-1-21, rig. Giovanni Vai's Scott 1, 4-4-21, dr shale 830 ft.

SOUTHERN CALIFORNIA

NEWHALL—Barnsdall's Rancho S. F. 2, 26-4-17, dr hard shale 3875 ft. Holbrook Pet. Co.'s Newhall Land 1, 28-4-16, td 5841 ft, wocs 6⅝-in at 5740 ft.

PICO CANYON—A. G. Burt's No. 1, 36-4-17, sd 1980 ft.

LINWOOD—Calizoo Oil Co.'s Saulque 1, 9-3-13, dr shale 7260 ft.

EAST TORRANCE—Carson Oil Co.'s No. 1, 31-4-13, dr shale 3275 ft, oil show 2800 to 3200 ft.

NO. LONG BEACH—Geo. L. Clayton's Clayton 1, 32-3-12, td 4895 ft, co.

FOX HILLS—Country Club Oil Co.'s No. 1, 19-2-14, dr shale 4536 ft.

PALMDALE—Wm. S. Diller's Lindsey 1, 1-5-12, td 1135 ft in sandy shale, showing oil, cemented 8⅝-in at 530 ft.

ROSECRANS AREA — Harmon-Fisher's Rosecrans 1, 19-3-13, rig.

DAVIDSON CITY—Hilldon Oil Co.'s A. M. E. B. Co. 1, 13-4-13 (formerly Flood Control 2), td 4038 ft, wocs 9-in at 3985 ft.

SUNSET BEACH—A. S. Johnston Dr. Co.'s No. 30, 20-5-11, rur.

WALNUT—Julian & Criswell's Langstaff 1, 5-2-9, sd 2078 ft.

HAWTHORNE—Lennox Pet. Co.'s Lennox 1, 3-3-14, dr brown shale 5621 ft.

PALOS VERDES—McClaren Bros., No. 1, 27-4-14, td 3970 ft, redr to 1870 ft, sd.

DEL REY-VENICE—Sharby Oil Co.'s Santa Monica Dairy 2, 22-2s-15w, rur.

MONTEREY PARK—Wales Pet. Co.'s Haig 1, 26-1-12, dr shale streaks sand 3220 ft.

ORANGE COUNTY—Wm. Alexander's No. 1, 22-3-9, foundation. Amalgamated Oil & Gas Co.'s Parr. Com. 1, 22-3-9, lcn. Mesa Oil Co.'s Mesa 1 (Newport), 29-6-10, td 7865 ft, plug 6600 ft, only slight shows, abn. Shell's Harbeson 1, 9-4-10, lcn. Signet Oil Co.'s Signet 1, 21-3-9, td 1907 ft, running formation tester, set 10¾-in at 1768 ft. West American Oil Co.'s Irvine 1, 14-5-9, dr hard sand 6120 ft.

SAN BERNARDINO COUNTY — Quarter Master Oil Prod. Co.'s No. 1 (Victor Valley), 21-5-6, lcn.

FLORIDA

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Expl. Co. 2, se ⅛e 17-24s-25e, pb to 2600 ft, testing, old td 6126 ft.

LEVY COUNTY—Fla. Oil Discovery Co.'s Sholtz 1, sw ne 9-15s-13e, dr 510 ft.

NASSAU COUNTY—St. Mary's River Oil Corp's Hilliard Turpentine Co. 1, nw nw se 19-4n-24e, dr 2480 ft, lime.

KANSAS

BARBER COUNTY — Barbara Oil Co.'s Holmes 1-27, cnw nw 27-33s-13w, 20,500,000 cf gas, comp. W. I. Southern's Davis 3, se se ne 24-34s-15w, dr 4225 ft.

BARTON COUNTY—Sam Murphy's Beck 1, ne ne ne 17-17s-12w, dr 2385 ft. S. E. Bailey's Hammeke 1, ne ne sw 12-18s-12w, 2100 ft oih, set 5-in csg 3402 ft. Stanolind's Schartz 1, nw nw nw 33-19s-11w, testing. Helmerich & Payne et al's Sessler 1, sw sw se 29-20s-11w, sso 3382-85 ft. Hanna et al's Luce 1, sw sw sw 21-20s-13w, rust 3300 ft. Phillips' McClanahan 1, ne ne se 7-16s-13w, set 10-in csg 627 ft, woc. Ralph Wixon et al's Buhrle 1, se se ne 14-16s-13w, cel. Stanolind, Continental and I.T.I.O.'s Nat'l Bank 1, se se sw 36-16s-13w, rur.

BUTLER COUNTY—Simpson Oil Co. et al's Dennis 1-A, ne ne sw 15-26s-6e, abnd 3108 ft. Maurer and Saco Oil Co.'s Connell 1, ne ne sw 27-29s-5e, abnd 2856 ft.

CHASE COUNTY—Calif.-Illinois-Kansas Oil Co.'s Hughes 1, sw nw se 13-22s-9e, dr 1500 ft.

CHAUTAUQUA COUNTY—Robinson et al's Foster 1, sw sw sw 6-33s-12e, hfo 1994 ft. C. L. Brosius et al's Garrett 1, nw sw nw 26-32s-11e, dr 1370 ft. S. H. Vineard's Hughes 1, ne ne se 13-32s-12e, sd 300 ft. C. R. Ross et al's Walker 1, nw nw se 5-33s-11e, dr 230 ft.

COWLEY COUNTY—Blair, Continental and McKnab's Miller 1, ne nw sw 14-32s-5e, td 3145 ft, D & A. Trees Oil Co.'s Hornbeck 1, nw nw nw 5-33s-4e, dr 2825 ft. Earl Wakefield's Powers 1, nw sw nw 8-32s-6e, dr 2600 ft. Lewis Prod. Co.'s Feaster 1, se nw sw 36-32s-5e, dr 1270 ft. Pryor & Lockhart's Brown 1, ne se se 34-33s-3e, lcn. E. B. Shawver's Fee 1, nw ne se 3-30s-4e, dr 805 ft. Rex & Morris et al's Lanier 1, ne ne nw 10-30s-5e, dr 1430 ft.

EDWARDS COUNTY—Miller & Morton et al's Meade 1, se se nw 33-25s-16w, brr.

ELK COUNTY—Morgan et al's Cook 1, nw nw nw 29-30s-12e, sd.

ELLIS COUNTY—Empire's Samuelson 1, ne ne ne 31-11s-16w, woc. Billings' Smith 1, se se nw 14-12s-16w, fsg 5-in csg. Earl Wakefield et al's Burnett 1, nw nw ne 1-11s-18w, fsg 2690 ft. Austin Drlg. Co.'s Karlin 1, nw nw nw 13-12s-18w, sd 475 ft. Vickers et al's Parker 1, cn½ ne nw 35-11s-18w, ur 8-in csg 2670 ft. Empire's Hall 1, ne ne ne 14-11s-17w, circ 3290 ft. Lario O&G Co.'s Bell 1, nw nw ne 8-12s-18w, fsg 675 ft. Western Kan O&R Corp. and Aylward Prod. Co.'s Schmeidler 1, nw nw nw 22-12s-17w, fsg 1425 ft. Skiles et al's Jensen 1, sw se ne 26-12s-18w, sd 510 ft. Vickers Pet. Co.'s Lucas 1, nw nw ne 16-17s-14w, dr 520 ft. Colonial Oil Co.'s Albert 1, sw sw ne 31-12s-18w, rig. Brunson Drlg. Co. and Gilmac Oil Co.'s Weisner 1, se sw se 31-13s-17w, dr 250 ft.

ELLSWORTH COUNTY — Skiles et al's Sturn 1-A, se se sw 31-17s-9w, dr 1430 ft. Equity Gas et al's Razac 1, ne ne se 31-15s-10w, sd.

GRANT COUNTY—Kuhn Bros.' Alderman 1, c sw¼ 18-29s-35w, set 8-in csg 2476 ft, rust. Panhandle Eastern P.L. Co.'s Taggertt 1, c sec 11-30s-37w, set 10-in csg 561 ft, woc.

GREENWOOD COUNTY—Ward McGinnis et al's Henley Estate 1, sw sw sw 25-25s-9e, pb. Western Kan O&R Co.'s Taylor 1, se se sw 6-27s-12e, hfo 1894-97 ft.

HAMILTON COUNTY—Barnsdall et al's Porter 1, sw sw ne 30-25s-41w, dr 5000 ft.

HARPER COUNTY—Magnolia's Freeman 1, se nw sw 3-31s-6w, cor 4668 ft.

HARVEY COUNTY—Simpson & Noble et al's Pierce 1, sw se ne 25-22s-2w, dr 3315 ft. Bell O&G Co. et al's Austin 1, se ne ne 28-33s-1e, fsg dp 3510 ft. E. I. Shaffer et al's Epp 1, se se sw 15-23s-3w, dr 3825 ft.

KIOWA COUNTY—Stanolind and Amerada's Pyle, Jr., 1, cnw ne 8-29s-16w, dr 4891 ft.

LOGAN COUNTY—Morgan, Flynn, Cobb et al's Hare 1, cnw¼ 9-13s-37w, lcn.

LYON COUNTY—Davis & Sory's Davis & Sory 1, sw sw se 32-21s-11e, dr 1550 ft.

MARION COUNTY—West Kan O&R Co.'s Suderman 1, se sw nw 22-20s-2e, dr 1665 ft. Hutchinson O&G Co. et al's Erhman 1, se se sw 15-18s-1e, ru.

McPHERSON COUNTY—C. R. Craft et al's Barnholt 1, sw sw se 30-20s-5w, P. 131 bbls oil, 24 hrs. Wamhoff et al's Nuse 1, se se sw 18-18s-4w, sd 1320 ft. Clyde Pulse et al's Boesker 1, se se nw 29-20s-1w, br.

MITCHELL COUNTY—Geo. Seidhoff et al's Greiss 1, sw sw se 16-8s-10w, so&g 3565 ft, ur 5-in csg.

NESS COUNTY—Newton Dev. Co. et al's Tenny 1, nw nw se 19-18s-25w, sd 4406 ft. Jones & Lane's Page Milling Co. 1, se se nw 36-18s-26w, ur 12-in csg 851 ft.

OSBORNE COUNTY—Fred C. Chaddox and Atlantic's Slater 1, ne sw ne 33-10s-15w, sd 615 ft.

PRATT COUNTY—Atlantic, Empire and Skelly's Runyon 1, sw nw ne 11-27s-13w, 6-in 4105 ft. Skelly Oil Co. et al's Adams 1, se nw ne 2-28s-11w, rur.

RENO COUNTY—Carter, Continental and Empire's Bontrager 1, C-54, ce½ ne ne 26-24s-5w, dr 3800 ft. Imo O&G Co. et al's Watkins 1, se se se 14-22s-7w, dr 2500 ft. Street & Butler's Kincaid 1, ne ne nw 13-24s-4w, rot rig. Helmerich & Payne et al's Haines 1, sw sw sw 9-25s-5w, rot rig. Jim Carey et al's McPheeters 1, nw nw nw 23-26s-6w, mim. Pryor & Lockhart's Stuckey 1, nw sw sw 31-25s-5w, lcn.

RICE COUNTY—Fred Phillips et al's Hubenett 1, sw ne sw 23-20s-8w, p. 103 bbls oil and 85 bbls wtr, 8 hrs. Comanche Oil Co.'s Cramm 1, flo 851 bbls oil, 11½ hrs, pot 1719 bbls oil, comp. Hipple et al's Wernett 1, ne ne nw 11-20s-6w, abnd 3688 ft. Skiles et al's Helmer 1, nw nw ne 7-19s-8w, td 3460 ft, D & A. Witt et al's Fair 1, ne se se 4-22s-8w, set 10-in csg 2207 ft, fsg csg. H. V. Holland et al's Brothers 1, se se se 12-21s-7w, dr 2635 ft. John Hanna et al's Marshall 1, ne nw nw 30-18s-8w, dr 875 ft. Shell Pet. Corp.'s Grizzell 1, cw½ w½ sw 5-19s-9w, dr 3095 ft.

BROOKS COUNTY—Graham et al's Fike 1, sw sw sw 9-9s-17w, td 3326 ft, 1700 ft wih and 900 ft oih.

RUSH COUNTY—S. A. Murphy et al's Roth 1, nw nw sw 21-16s-18w, td 3608 ft, no oil. Crawford et al's Jones 1, nw nw nw 35-17s-16w, dr 3280 ft. Wakefield et al's Zimmerman 1, se se sw 7-16s-18w, rig.

RUSSELL COUNTY—Goldstein & Vernon O&G Co.'s Steinert Estate 1, ne se sw 34-15s-15w, dr 3221 ft. Shell Pet. Corp.'s Batt 1, se se se 35-15s-14w, set surf csg. William Steinle et al's Anderson 1, ne se sw 33-15s-11w, rig.

SEDGWICK COUNTY—E. B. Shawver's Furman 1, sw ne se 24-29s-3w, dr 3645 ft. Union O&R et al's Howell 1, sw sw sw 6-29s-1e, spd. Ryan Consolidated et al's Williams 1, nw nw se 17-25s-2w, circ 3941 ft. E. H. Moore's Naughter 1, sw sw nw 29-29s-1e, dr 3696 ft. Talbott et al's Downs Estate 1, se se nw 32-28s-2e, ru. Home Stake Royalty's McCormick 1, sw sw nw 23-25s-3w, set 12-in csg 425 ft.

STAFFORD COUNTY—Newman & Winemiller's Sittner 1, ne ne ne 33-21s-12w, set 12-in csg 241 ft, woc. Faulkner's Moses 1, nw nw sw 9-22s-13w, ponds. Stanolind O&G Co.'s Abe Francis 1, ne ne nw 26-22s-13w, dr 1886 ft. Ward McGinnis et al's Smith & Jones 1, nw nw se 10-24s-13w, lcn.

STEVENS COUNTY—Kuhn Bros. et al's Youngren 1, sw sw ne 1-32s-39w, lcn.

SUMNER COUNTY—W. M. McKnab's Blair 1, sw sw sw 7-30s-1e, dr 900 ft. National Ref. Co.'s Schwantes 1, nw sw ne 16-32s-3e, spd. Douglas & Gears' Strickler 1, sw nw ne 30-32s-1w, dr 2470 ft.

TREGO COUNTY—W. I. Southern's Latimer 1, nw nw se 19-15s-22w, hfw 4366 ft, dr 4490 ft. Turner et al's Rogers 1, csw¼ 3-15s-23w, sdo 4638 ft. F. L. Thorn et al's Dix 1, se se sw 31-14s-24w, rust. Phillips Pet. Co.'s Trego 1, cse nw 14-12s-23w, lcn.

WOODSON COUNTY—Morris et al's Koening 1, se se nw 35-24s-15e, dr 1400 ft. Fred Rapp's Houghland 1, nw nw se 2-25s-15e, dr 1250 ft. B & B Oil Co.'s Lockard 1, nw nw ne 2-26s-13e, td 1444 ft, D & A. Lilly et al's Wall 1, sw se se 25-25s-13e, dr 750 ft.

SOUTH LOUISIANA

ACADIA PARISH—Humble's Federal Land Bank 1, North Crowley prospect, 34-8s-1e, dr shale 8898 ft. John Mayo et al's Bank of Commerce 1, e of Tepetate, 19-7s-1e, abn 9008 ft. J. E. Daniel's Setting 1, Trilby prospect, 17-9s-1w, dr shale 3154 ft.

AVOYELLES PARISH—Coastal Minerals Dev. Co.'s Purdy Hass 1, 25-2n-3e, dr shale and lime 5046 ft.

CALCASIEU PARISH—Stanolind's Prairie Land & Canal Co. 1, South Lake Charles prospect, 10-11s-9w, dr shale 7810 ft. D & D Oil Co.'s Lutcher Moore 2, nw of Starks, 1-8s-13w, ru.

CAMERON PARISH—Humble's Bell Hanszen 1, Hanszen prospect, 5-12s-6w, dr shale 9389 ft; same operator's Miami Corp. 1, Prema area, 8-14s-5w, dredging canal. Pure's State Mallard Bay 2, Mallard Bay prospect, 14-13s-3w, dr shale 5498 ft. Superior's State Gulf of Mexico 1, in Gulf of Mexico, 4-15s-8w, driving piling.

EAST BATON ROUGE PARISH—Louisiana Crusader Oil Co.'s State 2, University Block, 65-7s-1w, dr shale and lime 8205 ft. Cavalier Oil Co.'s Elliott 1, n of Hope Villa, 3-8s-2e, fsh 6127 ft.

EAST FELICIANA PARISH—G. C. Koch et al's Andrews 1, Clinton area, 69-2s-3e, abn 6132 ft.

EVANGELINE PARISH — Continental's Tate 1, Villa Platte area, 44-3s-2e, dr shale 7089 ft.

IBERIA PARISH—Jefferson Lake Oil Co.'s Lake Peigneur 414, Jefferson Island dome, 12s-5e, washing 6686 ft.

JEFFERSON DAVIS PARISH—Stanolind's Calcasieu National Bank B-2, China prospect, 28-7s-3w, coring shale 9263 ft. Union Sulphur's T. R. S. Farms 1, South Roanoke area, 23-10s-4w, dr sand, no show, 8619 ft.

LAFOURCHE PARISH—Gulf's Louisiana

State 3, sw of Marchland prospect, 36-23s-21e, dr shale 4935 ft. Amerada's South Coast Corp. 1, Raceland area, 34-15s-19e, mat.

LIVINGSTON PARISH—Neville & Grubb's Evans 1, ne of Hope Villa, 47-7s-3e, dr sand, no show, 6087 ft.

PLAQUEMINES PARISH — Gulf's State QQ 3, 17-19s-17e, ru.

ST. BERNARD PARISH — Southern Sulphur's State 2, Lake Borgne, 38-14s-15e, sd 3442 ft.

ST. CHARLES PARISH—Amerada & Louisiana Land & Exploration Co.'s State 1, Black Prince Island prospect, 13-15s-20e, testing 6830 ft.

ST. LANDRY PARISH—Gulf's Haas Hirsch 1, Krotz Springs area, 12-6s-7e, dr shale 7289 ft.

ST. MARTIN PARISH—Texas Co.'s State 3, Lake Mongouloi salt dome, 14-10s-9e, dr in sdtr hole 6553 ft.

ST. MARY PARISH—Texas Co.'s State 1, Bateman Lake area, 21-16s-12e, fsh 8273 ft; same operator's Horsheshoe Bayou 1, on Horseshoe Bayou, 40-17s-9e, woc 10,690 ft.

VERMILION PARISH — Continental's Brookshire 1, Abbeville area, 66-12s-3e, dr shale 10,389 ft.

VERNON PARISH—Castor Creek Dr. Co.'s Llano Del Rio 1, 34-2n-9w, dk. Geo. J. Greer's Commercial Bank 1, se of Leesville, 9-1s-8w, abn 5019 ft.

NORTH LOUISIANA

BIENVILLE PARISH—DeSoto O&G Co.'s Wm. Ashley 1, sw se 15-16n-10w, coring 5608 ft; Wm. Ashley 2, 15-16n-10w, lcn. H. L. Hunt et al's Bodcaw 1 (was Goodpine 1), 30-14n-5w, arr abn, td 7784 ft, Travis Peak. Hunt & Seaboard's Commercial Bank 1, ne nw 3-16n-6w, lcn. Lide, Greer et al's Davis Lbr. Co. 2, w½ w½ 12-16n-5w, dr 6390 ft. McDowell et al's Locke 1, ne c 9-15n-10w, fsg 2951 ft.

BOSSIER PARISH—Triangle Drlg. Co.'s Howell 1, 26-17n-12w, woc 7-in csg 4413 ft. United Gas. P. S., Lena Schmit 3, 14-17n-12w, 16 mil ft gas, td 4312 ft.

CADDO PARISH—W. J. Hunter et al's N. B. Stoer 1, 10-15n-15w, est 5 mil ft gas with distillate, after perf csg 5100-20 ft, after pb from 6562 ft to 6012 ft. R. W. Norton's Payne 1, se se 27-23n-16w, running liner, after pb, old td 11,486 ft, Permian salt. Prairie River Synd.'s Hutchinson 1, 15-15n-12w, coring 8239 ft. Fallon Oil Co.'s Cupples 1, 24-16n-13w, arr mir after cemt 5¾ csg 4960 ft, old td 5675 ft. United Gas P. S. Co.'s Wheeler A-1, 16-18n-16w, tested dry at 5911 ft, arr pb and test again.

CLAIBORNE PARISH—J. R. Bevill et al's Alex Edmonds 1, ne ne 16-20n-5w, dry at 5328 ft, arr core. J. B. Bond's Burgess 1, 3-20n-5w, arr acidize, td 5800 ft. United Gas P. S. Co.'s Brownfield et al 2, c sw se 5-19n-5w, dr 4084 ft.

DE SOTO PARISH—Pearl Oil Co.'s Joyner 1, 28-11n-12w, dr 5480 ft shale and lime. A. D. Robinson's Allison 1, 17-14n-13w, install new rig, td 63 ft. C. T. Ruffing's Redding 1, 35-11n-11w, changing rig after setting surf csg. Clear Lake Oil Co.'s J. A. Woolums 1, 29-12n-12w, sp and sd. Lyons & Neely's J. P. Barron 1, nw se 36-11n-11w, rur. Paul Miller's Barron 1, 36-11n-11w, arr set csg, td 2958 ft. Pullman Oil Co.'s Ramsey 3, 36-11n-11w, logged saturation in Paluxy, woc 7-in csg 2924 ft, td 2946 ft.

FRANKLIN PARISH—Jenson et al's Grayson 1, c ne 36-12n-6e, no report.

LINCOLN PARISH—G. E. Burford et al's P. N. Hanna 1, w½ se 34-18n-4w, rur after spd. H. D. Easton & Belmont Drlg. Co.'s G. W. Dye 1, ne ne 21-19n-4w, tested sw 5100 ft, pb to test 4584 ft. T. L. James & Co.'s Spencer 1, ne 11-17n-4w, woc 10¾ in csg 2477 ft. Ludel Oil Co.'s Gill 1, 36-20n-2w, dk. E. T. Oakes, Easton et al's R. L. Sanderson 1, 30-18n-1w, dk.

MOREHOUSE PARISH—Rondeau et al's Clarke 1, 10-20n-7e, owdd, td 3755 ft.

NATCHITOCHES PARISH—Jack Lent et al's Locke 1, 26-9n-9w, sd 2932 ft. Roy Raines et al's Allen 1, 22-9n-10w, sd 220 ft.

RED RIVER PARISH—Whitehurst et al's LeLong 1, 25-12n-11w, woc 250 ft.

RAPIDES PARISH—F. W. Martin's Hill 1, 24-5n-4w, fsg 580 ft. R. D. Webb's Brasher 1, 22-4n-2w, sd 5255 ft.

SABINE PARISH—Deep Rock Oil Co. et al's Whitney Corp. 1, 8-9n-13w, dr 8275 ft (to go to 9500 ft). E. Howard's Sabine Lbr. Co. 1, ne nw 24-9n-12w, rur. Romine et al's La. Long Leaf Lbr. Co. 1, 7-5-12, rur.

TENSAS PARISH—Sherrouse & Snyder's Chicago Mill & Lbr. Co. 1, 30-12n-10e, sd 798 ft.

WEBSTER PARISH—Magnolia's Barnes-Cox 4, 22-21n-10w, lcn; G. W. Cole 2, 27-21n-10w, woc 8152 ft; Ira Cox 6, 23-21n-10w, dr 8028 ft; A. J. McCook 2, 22-21n-10w, dr 7379 ft. A. G. Oliphant et al's Sam Banks 1, 34-21n-10w, dr 4780 ft. Ohio's Bodcaw Ac. 2, 47, 15-21n-10w, woc 5600 ft. S. P. D. Coyle & W. Cox 1, 23-21n-10w, lcn. Thomas Crichton Ac. 2, 1, 21-21n-10w, woc 9⅝ in csg 5661 ft; L. M. Gardner 1, 22-21n-10w, woc 7-in csg, td 8329 ft. R. L. Holloway B-7, 23-21n-10w, woc 9⅝ csg 5557 ft. Standard Oil Co. of La.'s E. L. Stewart, 32-21n-10w, dr 8285 ft. Bay Oil Co.'s A. J. Oliphant 1, ne ne 34-21n-10w, lcn. Woodley Pet. Co.'s R. C. Cox A-2, 22-21n-10w, dr 7920 ft.

WEST CARROLL PARISH—Rodessa O&G Co.'s Neely 1, se sw 19-20n-11e, sd 2541 ft.

WINN PARISH—Georgetown Oil Co.'s Tremont Lbr. Co. 1, 19-10n-1e, rur.

MICHIGAN

ALLEGAN COUNTY—Champion Development Co.'s Detling 1, sec 35-2n-13w, dr 150 ft; Siko 1, sec 9-1n-12w, lcn; Young 1, sw nw ne, 26-1n-12w, lcn. Flannigan & Kehlet's Clair 1, sec 29-1n-13w, testing 1610 ft. John Arlen's Barnicle 1, se ne sw, 33-2n-14w, lcn.

ARENAC COUNTY—Gordon Oil Co.'s State B1, sec 2-19n-3e, dr 2370 ft. B. A. Bartlett's Filip 1, sec 32-19n-4e, dr 2300 ft.

CASS COUNTY—L. T. Barber's Beebe 1, sec 3-5s-15w, sd 1770 ft. Wayne Oil & Gas Co.'s Gebhard 1, sec 34-5s-15w, dr 340 ft.

CLARE COUNTY—Pure Oil Co.'s Apel 1, sec 31-19n-5w, dr 1100 ft. James Peirce's Mortenson 1, sec 9-18n-5w, testing sg 1500 ft.

GLADWIN COUNTY — Dibble Brothers' Delbridge 1, sec 1-17n-2e, dr 190 ft. H. J. Hand's Smart 1, sec 29-17n-2e, dr 960 ft. Bell & Mark's Steel 1, sec 22-20n-1e, dr 3390 ft. F. C. Stover's Bushong 1, sec 16-18n-1e, lcn. Dibble Brothers' Kimble 1, sec 16-18n-1e, sd 3250 ft. W. H. Thourby's Kliz 1, sec 28-19n-2w, lcn. D. E. Hughe's Cox 1, sec 12-19n-2w, mim. Charles B. McLaughlin's Simmons 1, sec 28-19n-2w, sd 260 ft. Dapar Oil Co.'s Villeneuve 1, sec 11-20n-2w, rig.

ISABELLA COUNTY—C. E. Weller's Cotter 1, sec 11-15n-5w, driving 10-inch. Boston Oil & Gas Co.'s Fox 1, ne ne ne, sec 23-15n-5w, rig.

OTSEGO COUNTY—D. Geraldine's Fee 1, sec 34-30n-3w, lcn. Harley Williams' Raae 1, sec 15-30n-1w, sd 2560 ft. Barton & Williams' Yuill 1, sec 9-32n-3w, dr 340 ft.

MISCELLANEOUS COUNTIES — Bay: Wright & Keeler's Booth 1, sec 24-14n-6e, sd 1115 ft. Cheboygan: Bert Francis' Campbell 1, sec 7-34n-1w, sd 500 ft. Crawford: Dome Oil Co.'s Lindgren 1, sec 33-25n-3w, rig. Emmet: Cheboygan Oil Co.'s Barney 1, sec 12-35n-4w, sd 500 ft. Huron: C. W. Teater's Haldane 1, sec 30-16n-12e, dr 2300 ft. Iosco: Pabst Oil Co.'s Monfort 1, sec 8-22n-6e, sd 3365 ft. Missauke: Rex Oil Co.'s Meekof 1, sec 30-21n-6w, dr 2600 ft. Newaygo: Muskegon Dev.'s Carlson 1, sec 9-16n-12w, dr 3100 ft.

MISSISSIPPI

BOLIVAR COUNTY—Phillips Pet. Co.'s Perthshire 1, 2-24n-7w, dr 4750 ft, Tusacloosa gravel.

CLAIBORNE COUNTY — Claiborne O&G Drlg. Co.'s Crawford 1, 6-13n-4e, elev 115 ft, sd 2010 ft, repr boiler.

GEORGE COUNTY—Cleve Love et al's J. J. Newman Lbr. Co. 1, c sw 9-1s-8w, dr 4880 ft.

HARRISON COUNTY—G. A. Hesse et al's Hingin 1, c ne 12-7s-10w, arr deepen, td 2332 ft.

KEMPER COUNTY—R. A. Keaton et al's Buckwalter Lbr. Co. 1, nec 6-10n-14e, dk.

LAMAR COUNTY—Sun Oil Co. et al's Kate Talley 3, 33-4n-15w, dr 5580 ft, Selma chalk.

MADISON COUNTY—Sun Oil Co. et al's J. E. Wilson 1, se se 1-8n-2w, elev 218 ft. Top Cane River 1530 ft, straightening hole, td 1892 ft, shale, shells & sand.

PIKE COUNTY — Acadian Prod. Corp.'s Bales 1, c se nw 24-7n-2e, dk.

SIMPSON COUNTY—Goodwill O&G Co.'s Berry 1, 33-2n-4e, rog.

SUNFLOWER COUNTY—Phillips Pet. Co.'s Dockery 1, sw ne 27-22n-4w, rur.

WILKINSON COUNTY—Chas. Green et al's Julian Taylor 1, 4-3n-1e, elev 251 ft, 16-in csg 50 ft, dr 150 ft. A. B. Taylor et al's Miss-Wis L&T Co. 1, nw sw sw 34-4n-1w, elev 254 ft, top Cockfield 3424 ft, cored 3477-95 ft, showed sw, arr deepen to Wilcox, td 3495 ft. H. L. Carnahan, Tr.'s Foster Creek Lbr. Co. 1, 1-2n-2w, dk & mir.

OKLAHOMA

ADAIR COUNTY—B. L. Maddox' Penn Mutual Life Ins. Co. 1, cs½ ne nw 5-16n-24e, spd.

BECKHAM COUNTY—Mid-American Oil Co.'s Biscoe 1-A, sw sw sw 28-8n-22w, sd 2200 ft. Bud Lewis' Douglas 1-A, cse ne 21-8n-26w, fsg 993 ft.

CADDO COUNTY—Clyde Becker et al's Pharris 1, cse se nw 24-6n-12w, dr 5500 ft.

CARTER COUNTY — Meyer & Greenup's Arbuckle Royalty Co. 1, nw nw ne 18-2s-3e, mach dr 50 ft.

CLEVELAND COUNTY — Hollenback's Stinson 1, nw nw ne 17-9n-2w, fsg. Hollenback's Ward 1, sw se ne 30-7n-1e, rig and mit.

COAL COUNTY—Phillips' Beck 1, se sw sw 6-1n-9e, lcn.

COTTON COUNTY—I. T. I. O.'s Collins 1, ne ne ne 18-4s-10w, td 2450 ft, run 8¼-in

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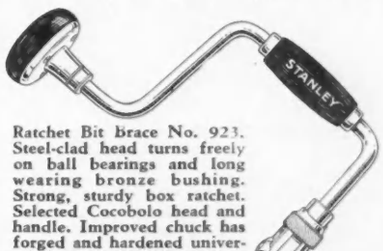

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csg. Bowers & Wise, Pendergraft 1, cnw se sw 4-4s-12w, der and pits.

CREEK COUNTY—Mosier et al's Holcomb 1, se sw ne 19-18n-8e, set 5-in csg 2961 ft, co. Jackson's Alberty 1, ne ne nw 25-18n-9e, dr 374 ft.

GARVIN COUNTY—Carter's Potts 1, ce½ se nw 36-1n-3w, pb to straighten hole. Nels-Bufton et al's J. E. Burch 1, se se sw 3-3n-1w, to dd. C. F. Dillingham's Evans 1, cnw nw sw 12-1s-3w, rur. B. C. D. Edwards' Clark 1, ne ne ne 16-3n-3e, rur.

GRADY COUNTY—Gulf Oil Corp.'s Thomas 1, sw nw nw 14-4n-5w, dr 5055 ft. Doyle Pet. Co's Huffine 1, cnw nw se 30-5n-8w, der.

GRANT COUNTY—Carter et al's Crisman 1, nw sw nw 16-25n-3w, dr 5116 ft; Kolarik 1, csl s½ sw 4-28n-5w, dr 5453 ft.

HASKELL COUNTY—Continental's Ferguson 1, sw se ne 33-8n-20e, test 5612 ft.

HUGHES COUNTY—E. H. Moore's Buck 1, nw sw sw 21-8n-10e, est flow 2,500,000 cf gas, lowering 8-in csg. Moroney & Healey's Field 1, cnw sw 11-9n-11e, fsg 2780 ft. Texas Co.'s Cox 1, ne nw nw 23-9n-8e, test 3390 ft. W. O. Allen's Barnard 1, sw sw sw 24-8n-8e, dr 3840 ft.

JACKSON COUNTY—Ace Gutowsky's Howard 1, sw sw nw 10-3n-19w, sd. Ernest Lippert et al's Miller 1, nw nw nw 4-2n-18w, dr 260 ft.

JOHNSTON COUNTY—Neff & Godfrey's Chapman 1, csw se sw 36-4s-4e, sdo 1426 ft.

KAY COUNTY — Black Gold Oil Co.'s Cooley 2, sw sw sw 25-28n-4e, dr 1630 ft.

KIOWA COUNTY—Kiowa Oil Corp.'s Finder 1, csw ne 4-6n-20w, dr 1000 ft. Ace Gutowsky's Booker 1, nw nw nw 33-2n-18w, sd 580 ft. Hughes & Reese' Fultz 1, cse se se 10-6n-18w, spd 25 ft.

LATIMER COUNTY—Clark Drlg. Co. et al's Wilson 1, cse se 15-5n-18e, may run 7-in csg.

LINCOLN COUNTY—Cimmaron Oil Corp.'s Frank Orner 1, csw se 31-17n-2e, dr 4175 ft.

LOGAN COUNTY—Shell et al's Waddle 1, sw se nw 36-15n-4w, dr 4525 ft. Sunray & Olson Drlg. Co.'s Canning 1, sw sw ne 31-17n-1w, rig.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, prep to run 2000 ft 2½-in tubing.

MARSHALL COUNTY—Stewart & Taylor's Chestnut 1, ne ne ne 23-8s-5e, td 786 ft, pb 782 ft, 15 bbls oil, comp. Stewart & Taylor's Chestnut 2, ne ne ne 23-8s-5e, sd 751 ft.

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CHARLIE HARTER

McCURTAIN COUNTY — Wilcox O&G Co.'s No. 1, sw se sw 30-2s-27e, dr 1160 ft.

MURRAY COUNTY—Power Oil Co.'s Lancaster Trust Co. 1, csw ne 10-1s-2e, mirt, td 3438 ft.

NOBLE COUNTY—Lincoln Oil Co. et al's Neil 1-A, ne ne ne 15-23n-2w, woc 5200 ft. Stanolind and Amerada's Johnson 1, nw nw se 4-20n-2w, abnd 5418 ft. Herndon Drlg. Co.'s Baggett 1, se se se 13-21n-3e, dr 3425 ft.

OKFUSKEE COUNTY—Riverland Oil Co.'s Board 1, ne nw se 10-13n-10e, dr 3420 ft. Burke-Greis, Rhea 1, sw sw se 14-10n-9e, td 820 ft, to run 12½-in csg. F. W. Merrick's Mackey 1, ne ne sw 29-11n-10e, dr 415 ft. Palmer Oil Corp.'s Welty 1, se se se 2-12n-7e, dr 1560 ft.

OKLAHOMA COUNTY—Frank Buttram et al's Cole 1, nw nw nw 16-14n-1e, rig and rur.

OSAGE COUNTY—Norbla Oil Co.'s No. 1, se se se 36-23n-6e, td 2876 ft, D&A.

PAWNEE COUNTY—Carter's Wells 1, ce ½ se nw 30-23n-5e, dr 2948 ft.

PAYNE COUNTY—E. F. Young's Jenkins 1, se ne se 4-17n-3e, dr 4595 ft. H. S. Brim et al's McKensie 1, cne ne 13-18n-3e, dg c & p.

PONTOTOC COUNTY—Southern Oil Co.'s Young 1, ne ne se 17-3n-7e, sd for gas 1165 ft. Roodhouse et al's Booth 1, se nw se 20-2n-6e, testing. Clark Drlg. Co. & Delaney's Richardson 1, se se sw 30-4n-8e, sdo 4470 ft. Boettcher O&G Co.'s Gann 1, se nw ne 25-4n-7e, dr 4067 ft. Norbla Oil Co.'s Kennedy 1, se se ne 13-2n-5e, dr 1554 ft. Union Dev. Co.'s Abbott 1, sw nw ne 34-3n-6e, fsg 3187 ft. W. E. Delaney et al's Payton 1, ne ne se 1-4n-7e, sdo 4324 ft.

POTTAWATOMIE COUNTY—Stanolind & Amerada's Billington 1, sw se sw 32-9n-3e, flow 423 bbls oil, 15 hrs. Atlantic Ref. Co.'s Dooley 1, se se sw 9-11n-5e, woc. Mid-Continent Pet. Corp. et al's Ne-Thah-Pea-Se 1, se se ne 24-11n-4e, dr 4553 ft. C. H. Yookums' No. 1, se se ne 27-6n-4e, dr 2310 ft. Roy S. Nash et al's Miller 1, cn½ ne se 29-6n-3e, rig, mit.

PUSHMATAHA COUNTY—Erle Halliburton et al's Bogwell 1, sw ne ne 30-3s-15e, recem.

SEMINOLE COUNTY—Stanolind and Amerada et al's Salina 1, se ne nw 4-5n-6e, dr 743 ft. R. S. Hays et al's Belford 1, ne se ne 9-9n-8e, bldg rig.

STEPHENS COUNTY—Carter et al's Harley 1, cne ne 24-2s-4w, dr 7440 ft. Coline Oil Co.'s Johnson 1, csw se ne 1-2n-8w, dr 7970 ft. Ed Parsons et al's Blake 1, csw nw 22-2n-8w, td 4966 ft. Jack Cohen's Pierce 1, cne ne nw 24-2s-6w, dr 404 ft.

TILLMAN COUNTY—Tom Walker's Bowman 1, sw sw nw 10-4s-17w, sd 20 ft. Gulf Oil Corp.'s Prichard 1, cse nw se 32-3s-16w, lcn. I.T.I.O. Co.'s W. A. Graham 1, sw sw ne 1-3s-19w, lcn. Cavens et al's Southerland 1, sw sw nw 35-4s-16w, td 441 ft, run surf pipe.

WEST TEXAS

(This report is confined to the north portion of the Permian basin).

ANDREWS COUNTY — Amerada Pet. Corp.'s L. Littman 1, c nw nw PSL section 6, blk A-29, elev 3577 ft, top anhydrite 1621 ft, salt series 1701-2770 ft, top Yates 2930 ft, top lime 3860 ft, pay 4316-4365 ft, used 1000 gals acid and swab 52 bbls 31.7 gravity oil 13 hrs; re-used 2000 gals acid and dd to 4400 ft, tested dry, dr 4754 ft. American Liberty Oil Co.'s E. P. Cowden 1, c ne nw PSL sec 14, blk A-55, elev 3114 ft, top anhydrite 1162 ft, salt 1250-2530 ft, top brown lime 2630 ft, trace gas 3170-80 ft, dr 4150 ft. W. G. Blanchard & H. J. Porter's Cox-Amerada 1, c sw sw PSL sec 4, blk A-30, top anhydrite 1595 ft, dr 4115 ft. M. J. Delaney Co.'s H. A. Moore-Gulf 1, sec sw¼ PSL sec 12, blk A-20, elev 3178 ft, top anhydrite 1960 ft, dr 4200 ft. Drilling & Exploration Co., Inc-Fuhrman Pet. Corp.'s Munger-Nix 1, c sw¼ PSL sec 20, blk A-47, lcn; Thornberry 1, sec nw¼ PSL sec 8, blk A-42, lcn. Empire O&R Co.'s J. D. Biles 1, c sw sw PSL sec 12, blk A-31, elev 3395 ft, top anhydrite 1677 ft, top brown lime 3831 ft, top solid lime 4130 ft, pb from sul water at 4833-5010 ft, pb to 4675 ft, used acid and swabbed water, dry and abd. H. S. Forgeron et al's Lockhart-Brown 1, c ne ne PSL sec 20, blk A-41, sp and sd. Wm. F. Hanagan et al's W. F. Scarborough-Llano 1, c ne¼ PSL sec 16, blk A-26, lcn. Humble's B. S. Walker 2, nw sw sw PSL sec 6, blk A-43, elev 3197 ft, td 4465 ft, used acid twice, flowed 39 bbls oil per hr on 7/64-in choke for 6 hrs. C. L. Peters & A. Hargraves' J. Riordan 1, c sw nw PSL sec 10, blk A-44, elev 3163 ft, top anhydrite 2020 ft, top salt 2080 ft, top Yates 3260 ft, dr 4300 ft. Shell Pet. Corp. et al's Terry 1, c sw se PSL sec 5, blk A-29, mim. Sinclair Prairie's Emma Cowden 2, nec of T. P. Ry. sec 11, blk 44, T-2-N, elev 3157 ft, top anhydrite 1640 ft, trace oil 4207-19 ft, testing with 600 ft oih, td 4340 ft.

BAILEY COUNTY—Geo. Etz & E. H. Robertson's I. C. Enochs 1, c labor 66, league 182, Floyd C. S. Lands, sp and sd. J. O. Whittington et al's McCelvey Bros. 1, c labor 15, league 161, Presidio C. S. Lands, lcn. Ernest L. Wilson, Illinois Oil Co. et al's Yellow House Ranch 1, northeast part labor 4, lease 700 State Capitol Lands, elev 3687 ft, top anhydrite 2000 ft, top salt 2090 ft, first lime stringer 3520 ft, first solid lime 4300 ft, oil stain 4400-50 ft, 2000 ft sul w at 4497-4525 ft, to pb and perf cas.

COCHRAN COUNTY—M. S. Ingleright & E. E. Fogleson's Mrs. N. H. Harris-Tarver-Duggan 1, ne part labor 14, league 55, Oldham C. S. Lands, dr 4995 ft. The Texas Co.'s C. C. Slaughter 1 (3492-ac), sw part league 130, Carson C. S. Lands, elev 3795 ft (ground), dr salt 2750 ft. Pete N. Wiggins, Jr.-C. Ed. Hyde et al's C. S. Dean-Slaughter 1, labor 26, league 92, Lipscomb C. S. Lands, elev 3730 ft, top anhydrite 2250 ft, top Yates 2910 ft, top lime 4200 ft, dr 4650 ft; C. S. Dean-Slaughter (Honolulu) 1, nec league 58, Martin C. S. Lands, lcn.

DAWSON COUNTY—Ray Albaugh et al's Higginbotham 1, labor 24, league 269, Moore C.S.L. sur, lcn; D. Hogg 1, c se se T&P sec 17, blk 34, T-4-N, lcn. Ernest L. Wilson, Atlantic Ref. Co. et al's Scanlan Bros. 1, c nw nw of E. L. & R. R. Co. section 83, blk M, elev 3111 ft, top anhydrite 2105 ft, dr 4500 ft.

GAINES COUNTY—Amerada Pet. Corp.'s C. M. Armstrong 1, c nw nw sec 456, blk G, CCSD&RGNG Ry. sur, elev 3612 ft, top anhydrite 2107 ft, dr anhydrite 4223 ft; R. A. Cox 1, nwc sec 380, blk G, CCSD&RGNG Ry. sur, elev 3554 ft, dr 1142 ft; A. Fasken 1, c nw nw of W. T. Ry. sec 160, blk G, elev 3283 ft, top anhydrite 2130 ft, base salt 3088 ft, top Yates sand 3247 ft, top lime 4280 ft, oil stained lime 5255-60 ft, first show sul w 5273 ft, dr 5300 ft; Florence Matthews 1, nec sec 417, blk G, CCSD&RGNG Ry. survey, elev 3557 ft, top anhydrite 2079 ft, salt series 2196-2819 ft, top brown lime 3930 ft, top solid lime 4250 ft, cem 7-in cas 4773 ft, td 4775 ft. Argo Oil Corp.'s E. H. Jones 1, c ne¼ PSL sec 2, blk A-7, elev 3669 ft, top anhydrite 2080 ft, salt series 2260-3025 ft, top Yates 3075 ft, dr 4650 ft. Blevins-Sloan & Shell's Barber 1, nw ne ne PSL sec 19, blk A-28, elev 3473 ft, top anhydrite 1580 ft, salt series 1660-2700 ft, top Yates 2825 ft, sul w 4725 ft, dr 4775 ft. Amon G. Carter et al's J. R. Sharp (Wasson) 2, swc PSL sec 47, blk A-X, elev 3535 ft, top anhydrite 2080 ft, top first lime 3950 ft, dr 4715 ft. A. G. Carter-Continental Oil Co.'s G. M. Langdon 1, sec sw¼ PSL sec 44, blk A-X, elev 3547 ft, top anhydrite 2173 ft, base salt 2970 ft, top Yates 3020 ft, top lime 3970 ft, saturated lime topped 4894 ft, td 4943 ft, swabbing 10 bbls oil per hr. Continental Oil Co.'s E. H. Jones 1, c se ne PSL sec 22, blk A-7, elev 3650 ft, top anhydrite 2060 ft, base salt 3080 ft, top Yates 3140 ft, top lime 4020 ft, at 4959 ft used 1000 gals acid and swabbed 8 to 10 bbls per hr, dd to 5040 ft, testing; W. McCarty Moore 1, swc PSL sec 46, blk A-X, top anhydrite 2090 ft, dr 4515 ft. Phillips Pet. Co.'s A. G. Carter-Wasson 1, se se ne PSL sec 53, blk A-X, top anhydrite 2075 ft, dr 2555 ft. Phillips Pet. Co.-I. T. I. Oil Co.'s E. C. Brand 1, se se ne PSL sec 55, blk A-X, elev 3585 ft, top anhydrite 2140 ft, top salt 2245 ft, dr 4315 ft.

HOCKLEY COUNTY—Frank A. Bates et al's F. S. & A. L. Lockett 1, c of E-80-ac of n¼ of PSL sec 5, blk I, mim. R. F. Duggan & Loffland Bros. Co.'s Yellow House Land Co. 1, c labor 11, league 718, Capitol Synd. Lands, A. Taylor sur, elev 3517 ft, top anhydrite 1880 ft, dr 4490 ft. Stanolind O&G Co.'s Alex Slaughter 1, c sw¼ labor 76, league 37, Zavalla C. S. Lands, elev 3518 ft, top anhydrite 2220 ft, top lime 4150 ft, cem cas 4770 ft.

LYNN COUNTY—R. L. Foree et al's C. O. Edwards 1, sec HE&WT Ry. sec 104, blk 9, lcn.

MARTIN COUNTY—Johnson & Robinson's O. B. Holt 1, c labor 20, league 319, Garza C. S. Lands, lcn.

TERRY COUNTY—H. B. Anthony-E. R. Rice & Illinois Oil Co.'s A. M. Brownfield 1, c nw¼ of E. L. & R. R. Co. sec 28, blk A-1, elev 3192 ft, top anhydrite 2236 ft, cem 7-in 4536 ft. Hugh Corrigan, A. W. Cherry et al (was W. L. Pickens et al's) J. B. Lewright 1, c ne ne PSL sec 1, blk C-37, elev 3185 ft, top anhydrite 2120 ft, top salt 2170 ft, top Yates 3110 ft, top brown lime 4275 ft, top solid lime 4470 ft, pb fr 5133 to 4996 ft, dr on bridge. R. L. Foree et al's W. E. Pool 1, c ne¼ PSL sec 54, blk D-11, elev 3447 ft, top anhydrite 2418 ft, base salt 3103 ft, top Yates sand 3138 ft, first lime stringer 4165 ft, top big lime 4592 ft, td 4847 ft, rust.

YOAKUM COUNTY—E. R. Bahan-R. R. Rhodes & J. E. Fitz-Patrick's L. B. Shook 1, c ne¼ sec 420, blk D, John Gibson sur, elev 3761 ft, top anhydrite 2340 ft, top Yates 3165 ft, first lime between 4570 and 4600 ft, free oil 5309-13 ft, and 5370-76 ft, sul w 5408-18 ft, sdo. Bohago Oil Corp.-Bond Oil Corp.'s West 1, c se nw sec 606, blk D, J. H. Gibson sur, elev

3660 ft, top anhydrite 2230 ft, top Yates 3041 ft, top brown lime 4035 ft, dr 4950 ft. Denver Prod. & Ref. Co.'s J. A. Whittenburg Est. 1, c nw nw sec 831, blk D, J. H. Gibson sur, elev 3616 ft, top anhydrite 2170 ft, dr 4200 ft. Honolulu Oil Corp. et al's Ruth Bennett 1, nec sec 677, blk D, J. H. Gibson sur, elev 3567 ft, top anhydrite 2385 ft, top Yates 3145 ft, top brown lime 4590 ft, show oil 5120 ft and 5135 ft, dr 5140 ft. Magnolia's Mrs. M. E. Taylor 1, ne ne ne sec 201, blk D, J. H. Gibson sur, elev 3607 ft, top anhydrite 2325 ft, top Yates 3040 ft, sul w in lime 5235-92 ft, dry and abd. Moore Bros. Corp. et al's Geo. Cleveland-Ohio 1, c ne ne sec 706, blk D, J. H. Gibson sur, cem cas 247 ft. Siosi Oil Corp. et al's Ruth Bennett 1, sw sw sw sec 631, blk D, cem sur cas. The Texas Co.'s W. F. Walker 1, c se se sec 794, blk D, J. H. Gibson sur, elev 3656 ft, top anhydrite 2114 ft, top Yates 2990 ft, top lime 4480 ft, cem 7-in cas 4650 ft and rust.

EAST TEXAS

ANDERSON COUNTY—Humble O&R Co.'s Suie Hassell 1 (80-ac), Jas. Beard sur, 2 mi n of Jarvis, Trinity test, rur. Roeser-Pendleton, Inc.'s V. W. Bowyer 3 (200-ac), E. Ritter sur, Cayuga field, elev 317 ft, top Woodbine 3991 ft, top Georgetown 4749 ft, anhydrite 7110-7478 ft, td 7676 ft, used 10,000 gals acid, makes little oil on gas lift. J. McDowell and C. & G. Oil Co.'s F. A. Newsom 1 (30-ac), T. C. Lively sur, cem cas 540 ft.

BOWIE COUNTY—Russell & McGuire (was Fay T. Chew and Brassett's) B. Barkinson 1 (90-ac), J. W. Parkman sur, 2½ mi n Leary, elev 312 ft, sd 2851 ft. Ferguson & Hill's A. Y. Breckenridge 1 (412-ac), Nancy Dycus sur, 4 mi w Texarkana, top Annona chalk 1308 ft, top Blossom sand 2063 ft, sd 2800 ft. Woodley & Bentley's J. D. Lumpkin 1 (245-ac), John McDermott sur, 1¼ mi sw of Dalby Springs, elev 290 ft, Annona chalk 1665-2090 ft, pb fr 4404 ft to 1300 ft, dr by junk, coring 4780 ft.

CHEROKEE COUNTY—W. L. Stone et al's H. W. Acker 1, Acker sur, near Maydel, lcn.

ELLIS COUNTY—Gigantic Oil Co.. Inc.'s C. H. Sullivan 1 (90 2/3-ac), Simon Garcia sur, 4 mi n Frost, top Paluxy 3018 ft, dr lime 3300 ft.

FREESTONE COUNTY—Holt, Young & Nannly's W. H. Chambers 1 (125-ac), W. D. Allison sur, 2¾ mi n Keechi, sp and sd. C. E. Rossiter et al's J. P. Fulton 1 (441-ac), J. P. Fulton sur, sd 956 ft.

HENDERSON COUNTY—Wm. McDougall, Tr. et al's Trinity Farm Securities Co.-R. M. Manning 1 (200-ac), H&TC Ry, sur, 4 mi s Malakoff, lcn. Tidewater Associated-Seaboard & Humble's McElreath-Suggett 2-C (149-ac), W. P. Wyche sur, 1½ mi nw Opelika, elev 452 ft, top Woodbine series 4450 ft, top Georgetown 5070 ft, top Paluxy 6020 ft, top first Glen Rose 6300 ft, top anhydrite stringer 6996 ft, top massive anhydrite 7315 ft, coring 7380 ft.

HUNT COUNTY—Stanolind O&G Co. et al's Jessie P. Hawks 1 (110-ac), Robt. Ragsdale sur, 1½ mi w Campbell, elev 566 ft, cut through fault 1275 ft, top Woodbine 2880 ft, top Georgetown lime 3730 ft, top Paluxy 4388 ft, top Glen Rose 4819 ft, anhydrite 5335-5560 ft, top Travis Peak 5965 ft, lost drill pipe 6570 ft, pb to 5970 ft to sidetrack. Bauersfeld & Aue, Inc. (was Texola Land Corp.'s), J. M. Goin 1 (250-ac), Jas. Merrick sur, 2 mi sw Wolfe City, elev 606 ft, dr 1000 ft.

KAUFMAN COUNTY—J. M. Scott & J. B. Woodside's Wood & Temple Nash 1 (80-ac), Juan Cortez sur, 1 mi e Scurry, elev 401 ft, Gober chalk 1300-1400 ft, top Woodbine 2270 ft, top Georgetown 2849 ft, sd 2920 ft.

LAMAR COUNTY—Blackman & H. W. McGee's J. M. Duff 1 (75-ac), J. C. Lamb sur, near Powderly, dr 1030 ft. A. W. Walker, Tr. and J. H. Blackburn's R. L. Rose-Federal Land Bank 1 (160-ac), A. N. Nowell sur, 1½ mi e Faught, elev 501 ft, top Paluxy 1511 ft, dr 1570 ft.

LIMESTONE COUNTY—Pure Oil Co.'s W. B. Kendrick 16-T (96-ac), 3 mi w Mexia, Mexia field Trinity test, elev 508 ft, Austin chalk 2210-2522 ft, top Woodbine 2896 ft, top Georgetown 3365 ft, top first Glen Rose 4270 ft, top broken anhydrite 5132 ft, top Travis Peak 5656 ft, lost 300 ft drill pipe 6384 ft, cut off at 6208 ft.

MORRIS COUNTY — Joiner Oil Corp.'s Morris Sheppard 1, M.E.P.&P. Ry. sur, 3 mi nw Naples, elev 315 ft, mim.

NAVARRO COUNTY—Tom Sharp et al's E. B. McDowell 1 (65-ac), T. J. Jordan sur, ½ mi s Bazette, dr 2100 ft.

RED RIVER COUNTY—Texas Trading Co. Inc.'s Southern Pine Lumber Co. 1 (102-ac), D. D. Bruton sur, 12 mi n Clarksville, sd 170 ft.

RUSK COUNTY—Barnett Pet. Corp. (was John G. Mayo et al's) Harrison-S. C. Sanford 1 (161-ac), Wm. A. Corder sur, 10 mi e Mount Enterprise, elev 252 ft, top Georgetown lime 3275 ft, first anhydrite 5168 ft, massive anhydrite 5871-6079 ft, first porosity 6187 ft, dr 6375 ft. Gen'l Crude Oil Co. et al's Bivens Bros. 1 (500-ac), R. Williamson sur, 6 mi n Tatum, elev 259 ft, dr 5850 ft. Nivla Oil Corp.'s Citizens Nat'l Bank 1 (50-ac), M. D. Carmel sur, 2½ mi se Henderson, elev 471 ft, top Georgetown lime 3340 ft, dr 4930 ft. J. W. Shipman et al's Citizens Nat'l Bank-L. T. Burton 1 (125-ac), J. J. Y'Barbo sur, 4 mi ne Henderson, elev 432 ft, base Georgetown lime 3676 ft. sd 4340 ft.

TITUS COUNTY—J. N. Buchanan & G. E. McGrede's Mrs. Cal Russell 1, J. M. G. Rutherford sur, 8 mi w Daingerfield, elev 326 ft, sd 2400 ft.

EAST TEXAS BORDER COUNTIES

HARRISON COUNTY — J. B. Bond's Bailey & Martin 1, Geo. Martin sur, 16-in csg 80 ft. Highway 80 Oil Co. of Texas' Mable George 1, J. S. Powell sur, elev 279 ft, ran electrical tester after so, arr set csg , td 2506 ft.

MARION COUNTY—Ark.-La. Gas Co.'s J. P. Fant 1, L. P. Cadenhead sur, elev 366 ft, top first anhydrite 5378 ft, dr 5990 ft. Emma Ford 1, A. de los Santos Coy sur, woc 2088 ft. Woods 1, J. C. Eaton sur, coring 2652 ft. Fohs Oil Co.'s Mary McReynolds 1, A. de los Santos Coy sur, elev 276 ft. Lodi sand 6029-34 ft, 7-in csg 6025 ft, swabbed oil, refused flow, arr acidize, td 6063 ft. Mid-Continent Pet. Co.'s Sory 2, A. de los Santos Coy sur, rur. United's J. H. Hutchinson 1, A. de los Santos Coy sur, elev 265 ft, base anhydrite 5955 ft, coring 5975 ft. Gulf's Lizzie Henderson 1, R. Bennington sur, rur. Shell's Henderson 1, R. Bennington sur, lcn. Holcomb & Thomasson's Hilliard & Womack 1, R. Bennington sur, mim.

PANOLA COUNTY—Danciger O&R Co.'s J. W. Tatum 1, Alfred Bissell sur, elev 293 ft. Pecan Gap 1750-2098 ft, dr 2689 ft. Glassell & Glassell's Pierce & Chesbro 1, Julia Soape sur, junked abn, td 5881 ft. Magnolia Pet. Co.'s E. A. Hull 2, Thos. Applewhite sur, elev 222 ft, dr 7208 ft.

SHELBY COUNTY—Portex Oil Co.'s Pickering Lbr. Co. 3, A. Hanson sur, dr 3348 ft. Wm. Redditt's Pickering Lbr. Co. 1, S. English sur, si, td 4109 ft. Allen et al's George 1, C. C. Tutt sur, dk.

SOUTH TEXAS

SAN ANTONIO DISTRICT

BASTROP COUNTY—Hantho-Nelson's K. M. Litton 1, Addison Litton sur, drilling 1000 ft. Texas Northern Oil Corp.'s John Barton et al 1, J. Rogers sur, drilling 1070 ft.

BEXAR COUNTY—Algra Oil Co.'s Edward G. Peters 1, sur 5, still shut down 815 ft. American Gas Co.'s Oliver 5, M. F. Rodriguez sur, dr ahead little trouble with caving 5 3/16 in csg 3480 ft, td 3490 ft. Dewey et al's C. A. Weeber 1, Juan Montes sur, sd 175 ft. Edna May Oil Co.'s Mrs. C. N. Cassin 1, Fernando Rodriguez sur, dr 1322 ft in Buda showing oil, top Buda 1309 ft. L. K. Oil Corp.'s William A. Russell 2, Fernando Rodriguez sur, swabbing some oil after acidizing with 3000 gals, td 1240 ft in ch. J. O. Williams et al's A. W. Bitter 2, Jose M. Baerrera sur No. 58, not yet started.

BLANCO COUNTY—D. N. Johnson's W. D. Glasscock 1, W. D. Stannock sur No. 322, sp and sd. H. T. Roe's Polk Morrisey 4, Thos. H. Webb sur No. 91, set 8 in csg prep to dd, td 263 ft.

BURLESON COUNTY — John Deering's Moses Gerald 1, James Buchanan sur, abandoned 2310 ft in sw sand.

CALDWELL COUNTY—B. C. Armstrong et al's Wilson Bell 1, Solomon Seal sur, dr 1080 ft. H. J. Baker's F. Smith 1, R. Davidson sur, top Edwards about 3610 ft, drilled in 11 ft, D&A at 3621 ft. R. T. Belcher's Mrs. G. Moody 1, Solomon Seal sur, dr 1100 ft. Chiquita Oil Co.'s Chas. P. Ross 1, Samuel Shupe sur, dr 125 ft. Fain Gillock's Mrs. J. P. Walker 1, A. Floyd sur, sd 20 ft. J. O. Mack's B. Withers 1, W. House sur, sd 1685 ft. Richardson Pet. Co.'s J. M. Trammell 1, E. Berry sur, sd for csg 2210 ft. Siznod Oil Corp.'s A. B. Reed 1, Miles G. Dyke sur No. 2, D&A top ch 2135 ft, base ch 2349 ft, td 2561 ft. Spokane Oklahoma O&G Co.'s K. Dougherty 1, J. Tyler sur, D&A in ch topped 2007 ft, td 2020 ft. Stapper Pet. Co.'s M. August 1, A. Floyd sur, prep to mi. Mrs. M. R. Tinkle's S. M. Blackwell 1, Richard Miller sur, dr Taylor marl 2055 ft. F. R. Williams' H. L. Rodenberg 1, James Berry sur, td in ch 2114 ft, initial production 12 bbls per day, did not acidize. L. H. Wilson's P. K. Wright 1, J. Roberts sur, lcn.

COMAL COUNTY—John R. Yates' Erhard Heidrick 1, A. M. Holbrook sur, dr 9⅞ in hole at 35 ft.

DIMMITT COUNTY — Paul C. Teas & Maryland Oil Corp.'s S. E. McKnight 1, sec 23, have not started yet. Wilcox Oil & Gas Co.'s Light Ranch 1, I&GN sur, D&A 8048 ft; Light Ranch (Luminar) 2, sec 29, set sur csg, woc; Light Ranch (Myssie) 3, sec 13, mir.

EDWARDS COUNTY—Amon G. Carter et al's Frank J. Sweeten Ranch 1, GC&SF sur, resume dr 710 ft.

FRIO COUNTY—Amerada Pet. Co.'s Mrs. D. D. Harrigan 1, Salvador Flores sur, No. 306, woc cemented off leak in 7 in csg set at 3290 ft, td 6410 ft. H. A. Pagenkopf & L. C. Jamieson's Blackaller Est. 1, James Gourley sur No. 765, still woo, td 3270 ft.

GONZALES COUNTY—Canoe Creek Oil Co.'s W. L. Bolts 1, W. A. Matthews sur, dr 100 ft.

GUADALUPE COUNTY—Jas. H. Eddy's D.

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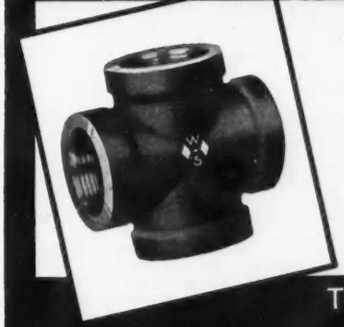

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F. Smith Est. 1, W. H. Hunter sur, sp. Galtex Pet. Corp.'s Paul Knodel 1, Green Dewitt sur, lcn. Jose Oil Corp. et al's J. Seeligmann 1, J. W. Williamson sur, wor. Kennedy & Crowley's Gus Jahns 1, Jose K. Davis sur, still testing on pump, td 2507 ft. Dave T. Mulholland's T. W. Jahns 1, J. K. Davis 1, dr below sur csg at 100 ft.

KENDALL COUNTY—J. E. Landon & C. F. Peffley's C. A. Sidensticker 1, sur No. 257, dr 235 ft.

LEE COUNTY—Eleousa Oil Co.'s Ira Sanders 1, J. Von Roeder sur, abnd 3675 ft. James E. Pederson's C. A. Turner 1, David Hudson sur, pb 6132 ft, pulling tbg to rec swab in sdtr hole 6560 ft.

MAVERICK COUNTY — Rio Dev. Co.'s State Bank & Trust Co. 4, blk 16, sur 1, dr 225 ft; P. W. Thompson Est. 1, blk 16, sur No. 5, sd 725 ft.

MEDINA COUNTY — Frank A. Brown's Jack Bilhartz 1, J. Campbell sur, woc 1377 ft, set 6⅝ in csg at 1330 ft, btmd in serp and lime. Gates-Hull-Meed's Emil Kreisle 1, sur 908, drilling 300 ft.

MILAM COUNTY—Kingdoor Exploration Co.'s J. C. White et al 1, Bynum Wickson sur, dr 4990 ft. Minerva Refining Co.'s Shelton Est. 3, Wm .Allen sur, no record.

WILSON COUNTY—F. H. Eckert & Sons' Federal Land Bank 1, Rafael Salinas sur No. 343, D&A, core 1045-55 ft, thin lens with oil and fresh water, td 1252 ft. Maryland Oil Corp. et al, Cynthia N. Trammell 1, M. May sur, bailed little heavy oil and salt water again, abnd 5611 ft. R. C. Stanley's E. M. Hierholzer 2, R. Salinas sur, squeeze cement job, td 1031½ ft, woc.

WILLIAMSON COUNTY—L. D. House et al's Millie Stewart 1, M. de la Villa sur, mi spudder.

ZAVALA COUNTY—H. F. Wilcox's T. J. Gilliam 1, GWT&T RR. sur, pumping 138 bbls of fluid per hr with large casing pump, 8 to 10 percent average is oil remaining very hot sulphur water, continuing to test with volume showing slight increase, td 3949 ft.

LAREDO DISTRICT

DUVAL COUNTY—Conservative Oil Co.'s DCRC 1, sur 47, testing 1487 ft. Hiawatha Oil and Gas Co.'s M. M. Miller 2, blk 24, Ball subd, increased distillate to two bbls per hour ⅛ in ch, td 5866 ft. Southland Life Ins. 3, Santos Flores gr, sec 15, coring 6255 ft. John H. Hougen, Trustee's W. H. Patton Trustee 1, sur 148, dr 1725 ft. King Dr. Co.'s Atlee Parr 1, San Andres gr, perf 5930-42 ft, ran tbg, testing 18 shots, developed sw with scum of oil, td 6531 ft. Lockhart Bros.' Atlee Parr 1, sec 277, pb to Pettus sand, woc, pb, td 4704 ft, td 4830 ft. Magnolia Pet. Co.'s DCRC 2, sur 58, D&A 2698 ft. Navarro Oil Co.'s E. M. Rossi 1, sec 11, Santos Flores gr, may put on pump, td 6179 ft. George Parr Oil Co.'s W. W. Meek 1, sur 212, D&A 2968 ft. Penn Palangana Oil Co. et al's C. K. Gravis 1, sec 254, coring ahead, td 5320 ft. Standard Oil Co. of Kansas' Mabel Rossi 1, blk 10 Sweden subd, Santos Flores gr, initial production 224 bbls per day 3/16 in ch, tp 320 lbs, cp 650 lbs, td 4797 ft. Standard Oil Co. of Kansas' V. L. Rossi 1-A, sec 19 Sweden subd, Santos Flores gr, lcn. Woodley Pet. Co.'s F. Vaello Puig 1, San Andres gr, sp.

JIM HOGG COUNTY—Henry M. Brown, Trustee's Sylvester Gutierrez et al 1, sec 22, sh 4, El Peyote gr, sur 579, dr 325 ft.

McMULLEN COUNTY—Alabama Minerals Corp.'s Margaret Gordon 1, A. B. & M. sur No. 127, prep to mi. Edwards & Zoch's Two Rivers Ranch 1, sec 50, Two Rivers Ranch, to comp as gas well at 487 ft, td 1778 ft. Howell Oil Co.'s Kate Martin 1, D. Easterpre sur 213, sd 3510 ft. Edwin M. Jones' Harry Ezzell 6, sec 60, Ezzell Ranch subd., C. O. Ragland sur, dr 2115 ft. J. T. Lanier's E. R. Hagist 1, sur 481, sd 1695 ft. Rowan & Nichols' Douglas W. Rhodes 1, M. F. Lowe sur, dr 2020 ft. V. G. Schimmell et al's E. R. Hagist 2, R. W. Mills sur, dr 815 ft. C. C. Shumway et al's Shiner Ranch 10, sec 51 T. T. RR. sur, swabbed sw scum oil, td 1584 ft.

STARR COUNTY — Calderoni-James-Follette's Francisco Rodriguez 1, Por 80, J. of Camargo, dr 760 ft. John H. Clopton et al's Green 1, por 81, J. of Camargo, reinstated, set plugs 1122 ft, perf 1112-16, blew out and running wild, making dry gas, td 4620 ft. John H. Clopton et al's Dionicio Tijerina 4, blk 12, sh 14-C, por 80, J. of Camargo, reinstated, drilling 1900 ft. Cook, Maris, Arnold's Starr County Cattle Co. 2, Cook, Maris, Arnold sur, por 89, temp abnd, td 2465 ft. Danrey Oil Co., Cayetano Ramos 2, sur 149, sd 1040 ft. G. E. Dodds, Tr.'s Rosario Perez 1, por 83, J. of Camargo, sd. Gilcrease Oil Co.'s DeCastillo 1, por 77, lot 9, Walker subd, abnd 1252 ft; C. M. DeCastillo 2, blk 11, Walker sur, sh 7-C, por 77, dr 965 ft. E. A. Graham & King-Wood Oil Co.'s Yturria Land & Livestock Co. 1, por 38, flowed 15 bph extending deep Samfordyce oil field 1500 ft north, ⅜ in ch from sand 2995-3007 ft, tp 400 lbs, cp no gauge, sand slightly deeper than Barlow horizon of Samfordyce pay, 400 lbs. press from 3000 ft sand, td 3039 ft; Yturria Land and Livestock Co. 2, por 100, skid on. K. E. Merren's Starr County Cattle Co. 1-A, blk 34 of Jeffries & Lambeth subd, in por 89, fsg in sdtr hole 4868 ft, will drill ahead and re-core, td 5418 ft. Henry Mode et al's Kelsey Bass 1, por 86-87, blk 7, temp abnd 3507 ft. The Texas Co.'s A. V. Guerra 6-A, Juris. of Mier, por 67, dr 3030 ft. Transwestern Oil Corp.'s T. B. Slick 1, sur 266, dr 1750 ft.

WEBB COUNTY—Eugene Garner, Jr.'s R. Saldivar 2, sur 657, abnd 1000 ft; R. Saldivar 3, sur 657, lcn. O. W. Killam's A. M. Bruni Est. 2, blk 83, Borrego gr, lcn; D. G. Garcia 7, sur 786, dr plugs prep to test, td 2009 ft. Lutex Oil Co.'s Lone Star Con. Co. 2-A, por 12, 13 and 14, oil sand 3495-3504 ft, ran electric formation tester, abnd, td 3504 ft. J. W. Magee's E. Garcia 1, blk 21, Henry James subd, dr 125 ft. Paul Meaders et al's Garcia & Villareal 1, blk 5, sec 338, lcn abnd. J. R. B. Moore's Maria G. Martin 1, sur No. 458, dr 925 ft. Howard Nessley's A. M. Bruni Est. 3, sur 449, lcn for Cole sand test. E. J. Pear et al's De la Garza Est. 1, sur 262, ru. Randon Oil Co.'s Joe C. Palmer 1, sur 474, ru and sd to clear titles. Simon-Grossman and Katz's R. Saldivar 1, blk 11, sur 657, dr 200 ft.

ZAPATA COUNTY—Allison & Abrams' S. Vela 1, sur 259, sd 1120 ft. Fansler-Moore-Murray's Gopher Trust Est. 1, sur 6, Fullerton subd, lcn. O. W. Killam's A. M. Bruni Est. 1, blk 83, Killam subd, dr 2810 ft. Ray L. Martin's S. Vela 1, blk 44, sh 2, El Grullo gr, dr 365 ft. Eugene Mayes et al's Adela G. de Flores 1, blk 198, Dorothy subd, mim. J. O. Sheffield's C. H. Buck 1, blk 15, J. O. Sheffield subd, sur 273, abnd 2240 ft.

CORPUS CHRISTI DISTRICT

ARANSAS COUNTY—Barnsdall Oil Co.'s Kate Edwards 1-A, Wm. Lewis sur, sd changing boilers, td 9292 ft.

BROOKS COUNTY—Mills Bennett Prod. Corp.'s W. W. Jones 1, Guadalupe Sanchez sur, ru. Standard Oil Co. of Texas' Mestina Oil & Gas Co. 1, Salinas sur, showed gas, oil and salt water through perforations 5209-20 ft and 5167-68 ft, pb and perf 2395-2405 ft, testing, td 6786 ft; Mestina O&G Co. 5, Mestina Rafael Garcia gr, dr plugs prepare to perforate 4780-90 ft, sand 4780-4820 ft, set 5 in casing 4827 ft, td 5505 ft; Mestina O&G Co. 8, La Mestina gr, drilling 1302 ft.

CALHOUN COUNTY—Calo-Tex Oil Co., (Matagorda Oil Corp.), J. Brundrett 1, Brundrett sur, sd for repairs 3800 ft.

CAMERON COUNTY—Ruez-Morton, Inc.'s United Land Irr. Co. 1, El Jardin subd, dr 6600 ft.

GOLIAD COUNTY—Dirks Brothers' Dr. G. W. Allen 2, Obid Marshall sur, D&A 4580 ft. Goliad Oil Co.'s S. E. Cole 1-A, lot 33, Range 4, set 8⅛ in csg 5441 ft, dr plugs, td 5461 ft.

HIDALGO COUNTY—Felmont Oil Corp. et al's Mayer & Weill 1, por 47, sp. Dayle L. Smith Oil Co.'s Fairbanks & Young 1, blk 41, por 46, coring 2280 ft. Y & B Oil Co., Waite Brothers 1, sh 382, Los Ejidos gr, dr below 500 ft.

JACKSON COUNTY—George J. Greer et al's J. R. Davis 1, D. H. Hoffman sur, drilling 6991 ft.

JIM WELLS COUNTY—Magnolia Pet. Co. et al's A. A. Seeligson 7, Los Jaboncillos sur, test 6219-30 ft, 50 lbs gas 200 ft mud 2 min, ½ in ch, btm and top pressures 2600 lbs, hard pack sand 6246-56 ft, coring ahead. Sand 6221-30 ft with oil odor, td 6256 ft.

KARNES COUNTY—Kinero Oil & Gas Co. & Reynolds and Hickok's H. Koehler 1, sp. Pettus O&R Co.'s Mrs. R. A. McKinney 1-A, R. C. Ballard sur, flowed 157 bbls 45.4 gravity oil through ¼ in ch, tp 140 lbs, cp 240 lbs, td 3653 ft.

KLEBERG COUNTY—W. L. Hinds Co.'s D. M. Murchison 1, J. J. Roberts block, sec 22 KT&I subd, dr 3250 ft.

LIVE OAK COUNTY—Charles Hanna's C. H. Wedding 1, Brigida Hanghy sur, sp. Henshaw Bros. & Walter C. Nelson's Alfred Wesch 1, R. Tripplet sur, abnd 3218 ft. Loma Oil Co.'s S. A. Joint Stock Land Bank 1, John Turner sur, D&A 1510 ft. W. C. McBride, Inc.'s A. Sanger 1, sec 391, GC&SG sur, dst 2860-81 ft, rec 1250 ft sw 15 min, coring ahead, td 2910 ft. Ranco Oil Corp.'s Fee 1, J. Pointevent sur No. 3, ru.

NUECES COUNTY—Fain Gillock et al's Robert Poenisch 1, lot 11, sec 32, Flour Bluff & Encinal Gardens, test will not be drilled unless No. 2 is a producer; Robert Poenisch 2, lots 7 and 8, blk 32, Flour Bluff and Encinal Garden Tracts, dr 4950 ft. Seaboard Oil Corp. of Delaware's J. O. Chapman et al 1-C, sec 111, Laureles Farm Tr, dr 6825 ft. Seaboard Oil Corp.'s Ed Jurica 1, W. J. Robertson blk 32, coring 6420 ft. Southern Minerals Corp.'s (W. L. Hinds) Lucy J. Rivers 1, sec

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Pull Rod Jacks
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WANTED: Experienced, competent and responsible rotary tool pusher; preferably man pushing tools for a drilling contractor. "Has Beens" or ambitious drillers need not apply as must have man already engaged in pushing tools. Steady work and good salary assured. Applications should be mailed to Box 736, care of Oil Weekly, Houston, Texas.

WANTED SALESMAN—Experienced in oil country tubular goods. Must have personality and be a good mixer. Good opportunity for right man. In answering give experience and references. All applications being treated strictly confidential. Address, Box 100, care The Oil Weekly.

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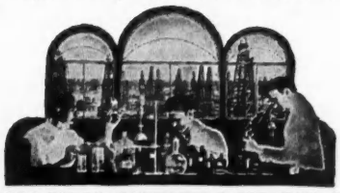

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301, pb to 5400 ft to sdtr, td 6015 ft; H. G. Yakey 1, sec 38 King subd, R. Garcia sur, mir. United Prod. Corp.'s T. S. Schroeder 1, Andres Fernandez de la Fuentes sur, drilling 4820 ft. Sam E. Wilson, Jr.'s J. F. Herold 1, lot 2, sec 6 Bohemian subd, Enrique Villareal gr, set 10¾ inch sur csg, drilling ahead 620 ft.

REFUGIO COUNTY—Conroe Drilling Co.'s (J. V. Chew & O. V. McIntire) F. E. Kloesel 1, sec 11, Bonnie View Ranch subd, dr 2550 ft. Edwin M. Jones' Ben Shelton 1, Refugio Town Grant, abnd 7965 ft. Randon Oil Co. and American Liberty Co.'s J. Vincent 1, blk 9, Randon Oil & Gas Co. lse, sur 41, CEIP&M sur, temp abnd 6014 ft. United Prod. Corp.'s J. J. O'Brien 12, Refugio Town Tracts,. recemented perf 7830-45 ft, reperforated 7680-88 ft, testing 9225 ft. Wynne Drilling Co.'s J. A. Lambert 1, James Hewitson & James Power sur, sp.

SAN PATRICIO COUNTY — Buckingham Oil Co.'s Jean Davis 1-C, sec 27, drilling 6885 ft. Danrey Oil Co.'s Jean Davis 1, Wm. Boyd sur, reported cleaning into pits, bldg storage, top sand somewhere below 6560 ft, td 6606 ft. Eleanor Oil Co.'s J. F. Green Est. 1, T. T. Williamson sur, test sw and gas through perforations 6252-58 ft, td 7305 ft. Humble O&R Co.'s John S. McCampbell 1, R. Martinez sur, drilling and coring 7185 ft. Plymouth Oil Co.'s J. F. Odem 1-A, Archibald Herron sur, dr 4926 ft hard sh and lime in sdtr hole, td 5080 ft. E. P. Schwab's H. A. Smith 1, sec 16-A, Cubage & Miller subd of O'Connor Ranch, dr wtr well and wor to dr ahead. Wellington Oil Co.'s James F. Welder 1-B, sec 6, Cubage & Miller subd, fshg 5925 ft.

VICTORIA COUNTY—Magnolia Pet. Co.'s Mrs. Meta Beck 1, T&NO RR sur No. 1, abnd 4777 ft.

WILLACY COUNTY — Shell Pet. Co.'s Yturria Land & Cattle Co. 1, sh 64, San Juan de Carritos gr, swabbed down to 5100 ft, no show, td 10,286 ft.

TEXAS GULF COAST

BRAZORIA COUNTY—Jack Frazier's Temple Lbr. Co. 1, e of Bonney, H.&T.B. sec 25, lcn. Humble's Munson Estate 1, e of East Columbia, S. Carter sur, lcn. Ohio Oil Co.'s Kemper 1, Chocolate Bayou area, H.&T.B. sec 33, dr shale 3015 ft. Texas Gulf Producing Co.'s Adams 1, Chocolate Bayou area, H.&T.B. No. 40, mim. Pure's Slade 1, Peach Point area, S. F. Austin sur, woc 8161 ft.

CHAMBERS COUNTY—David B. MacDaniel's Barrow 1, nw of Anahuac, Luke Bryan sur, dr shale 5780 ft.

FT. BEND COUNTY—Research Inc.'s J. M. Moore 1, ne of Orchard, S. Kennedy sur, sd 5030 ft.

HARRIS COUNTY—Geo. Anderson et al's Fisher 1, Cedar Bayou area, J. Jams sur, dr shale 2449 ft. Superior's Butler 1, Bammel area, J. Ehrhardt sur, preparing to dr plugs 9898 ft. West Production Co.'s Underwood 1, nw of La Porte, N. Clopper sur, dr shale 3370 ft.

LIBERTY COUNTY — O. C. Carvay's Weaver 1, nw of Cleveland, J. Devers sur, no report. J. G. Mayo et al's Gibbs Brothers 1, ne of Davis Hill, J. D. Martinez sur, sd 30 ft.

MATAGORDA COUNTY — Continental's Hawkins 2, Sheppard Mott area, D. McCarthy sur, dr shale 5640 ft. Royal Oil Co.'s Ewing 1, Sugar Valley area, A. S. SoJourner sur, dr shale 8782 ft.

MONTGOMERY COUNTY—J. W. Philfner's Spiller 1, nw of Conroe, R. Marsh sur, dr shale 678 ft.

NEWTON COUNTY—Houston Oil Co. et al's Sabine Tram 1, Bunker Hill prospect, H.&T.C. sec 35, dr shale 5930 ft.

POLK COUNTY—Humble's Carter Brothers 1, nw of Seguin, H. W. Augustine sur, dr shale 2747 ft.

Rotary Machine

The National Supply Company, Toledo, Ohio, has issued a revised bulletin, No. 148, superseding No. 73, describing in detail the No. 12 25¼-inch Ideal Rotary Machine. Also this company has brought out a new bulletin covering No. 14-D Band Wheel Power.

Valve Chart

Ohio Injector Company, Wadsworth, Ohio, has prepared for distribution a chart showing a comparison of the various types of valves that are on the market. For anyone who orders a specialized valve, this chart will be exceedingly handy.

Meters

American Meter Company, New York, has issued a bulletin covering its soldered seal index frame and glass index mounting for meters. In addition to the above the bulletin features a number of other new improvements to this line.

Heeter's Packers and Swabs

For over a quarter century the name of C. M. Heeter Sons & Co. has been known to the oil men of America.

Heeter's Improved Patent Swabs, Corrugated Friction Sockets, Wire Line Pumping Outfits, Sand Pumps and other Gas and Oil Well Materials.

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of the
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of
PETROLEUM GEOLOGISTS
1917-1936
By
DAISY WINIFRED HEATH

A.A.P.G. PUBLICATIONS INDEXED
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Geology of the Tampico Region, Mexico	1936
Gulf Coast Oil Fields	1936
Structural Evolution of Southern California	1936

382 pp. free to members. Non-members, individuals, companies, and institutions may buy copies at $3.00, postpaid.

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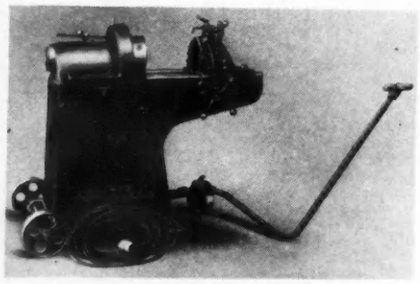
NEW PRODUCTS FOR THE FIELD
Machinery • Tools • Catalogs • Books

PORTABLE THREADING MACHINE
Landis Machine Company

Landis Machine Company, Waynesboro, Pennsylvania, has developed a new mounting for its 2-inch "Little Landis" Pipe Threading and Cutting Machine, so as to permit moving the machine readily from one location to another.

Two wheels are used at the rear of the machine and a single guide wheel in a unit with the handle is used at the front end.

The guide wheel and handle are detachable in order that no interference from them is experienced by the operator. Removing of the handle and wheel, automatically lowers the machine to the floor, allowing it to rest solidly on its own base.



"Little Landis" Portable

To move the machine from place to place it is merely necessary for the operator to raise the handle until the swivel can be hooked into the swivel bracket fastened to the front end of the machine bed. Pulling down on the handle then raises the machine approximately 2 inches from the floor and it can then readily be wheeled to any desired location.

Equipped with an extension cord for plugging into a convenient socket, the unit mounted on wheels makes an ideal portable unit for threading pipe from ¼- to 2-inch inclusive or bolts up to 1½ inches in diameter.

PUMPING JACK
The National Supply Company

The National Supply Company of Delaware, Toledo, Ohio, has lately added to its line of production equipment a new under-pull pumping jack. This is known as the Type D-180 and is designed for the heaviest requirements of present day rod line pumping.

The rated dynamic polished rod load is 18,000 pounds. Rated stroke is 56 inches. Ratios of polished rod to pull rod strokes is maximum 1.81 to 1 and minimum 1.24 to 1. Saddle and pull bar bearings are bronze bushed with oil reservoirs and Perfect Oil Seals. Steel shafts operating in these bearings are renewable.

The design of The National Type D-180 Jack is the same as that of National Pumping Jacks Types D-80, D-100 and D-130-S. Among the more important features are the tri-hedral frame construction (patented) and the adjustable beam mounting (patented). When the beam is mounted on the tri-hedral frame and alignment of polished rod secured by means of the adjusting screws, there results a structure of great stability, which will operate freely and maintain the correct relationship of all parts under the most severe operating conditions.

National Type D-180 Jack

The polished rod hanger (patented) lifts the polished rod within a fraction of an inch variation from the vertical line. This occurs at the top of the stroke where the angular movement of the rod is almost imperceptible. The linkage does not touch the polished rod except at the clamp and therefore does not impose any bending on this part.

The entire jack is fabricated from structural steel by electric welding. A special feature is the scallop weld (patented) used on both ends of the pull bar. This provides an increased section area at the points of greatest stress to safely carry the unusually high tensile and bending stresses that occur at these places.

A FIRST-AID KIT FOR TREATING BURNS
Davis Emergency Equipment Company, Inc.

Davis Emergency Equipment Company, 55 Van Dam Street, New York, has developed a first-aid kit, specifically designed for the emergency treatment of burns.

The kit is furnished in bright red enamel and is conspicuously labelled "First Aid for Burns." It contains 12 gauze compresses, which can be opened up in progressively larger sizes so that they can be used for covering small or large areas; 12 six-yard lengths of 4-inch bandage for holding the dressing in place; 6 five-ounce tubes of Tannoid, the tannic acid treatment for burns; and three packages of wooden applicators for applying the Tannoid. All items are packed in unit cartons and the supply as a whole is sufficient for burns involving the entire body.

Tannoid is a jelly containing 5 percent of tannic acid, which is today recognized and accepted as a most effective treatment for burns. Hospitals ordinarily use a 5 percent solution of tannic acid which has been freshly made, but as such solutions are impracticable for first-aid work, Davis developed Tannoid, which keeps indefinitely and is always ready for instant use. When Tannoid is applied to a burn, the tannic acid content relieves pain and causes a local coagulation of the burned tissues, thereby preventing the developing of toxins in these tissues.

The mechanical coating formed by the water soluble base of Tannoid also excludes the air from first and second degree burns and so relieves pain. Being water soluble, it can be removed painlessly.

An exclusive feature of Tannoid is its low freezing point —even at minus 22° F. a burn may be dressed, while a jelly of higher freezing point would not be usable.

PETROLEUM DEVELOPMENT AND TECHNOLOGY
American Institute of Mining and Metallurgical Engineers

The American Institute of Mining and Metallurgical Engineers, petroleum division, recently issued a 690-page book, "Petroleum Development and Technology," which is composed of papers and discussions presented before the Division at Los Angeles, Fort Worth and New York City during the past year. It is the twelfth of the series. The seven chapters are devoted to production engineering, production engineering research, stabilization, petroleum economics, production-domestic (262 pages), production-foreign (104 pages), petroleum engineering education, and refining. This is the largest volume of the series since 1928, and contains 150 more pages than last year. The price is $5 net, bound in cloth.

SCRAPER

MacClatchie Manufacturing Company

MacClatchie Manufacturing Company has developed a giant wall scraper with a wide reach and triple cutter for the purpose of greatly enlarging the hole through the production zone. After setting the liner this space is filled with carefully sized rocks and gravel.

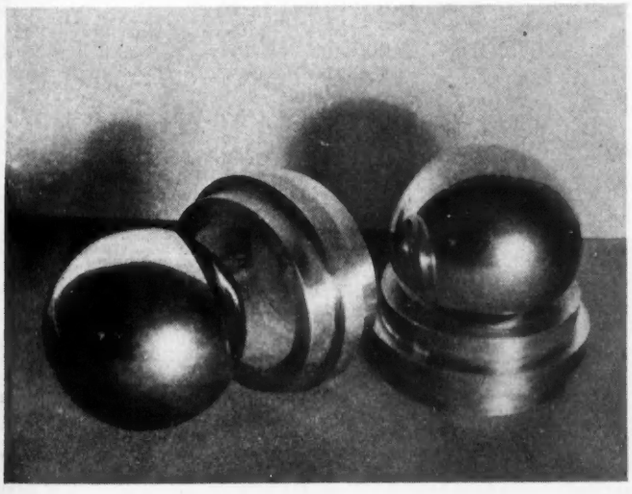
MacClatchie Scraper

Work of this type requires unusual enlargement of the drill hole through the producing zone, and the enlarging tool must be small enough to pass through casing of comparatively small diameter. The accompanying picture shows a new MacClatchie scraper developed for applications of this nature. It will readily pass through 11¾-inch casing, but once expanded has a cutting range 30 inches in diameter. Complete circulation is supplied to each of of the 3 cutters, as well as through the body to the pilot bit below, assuring ample circulation to carry away the formation removed in jobs of this nature. The 3 blades, a feature of all MacClatchie scrapers, are particularly valuable in these large sizes, the makers claim, because they mean less cutting load on each blade and assure smooth rotation even when reaching out for a maximum size cut. These large-size scrapers are available for both rental and export purposes.

OIL PUMP BALL VALVES IMPROVED

Haynes Stellite Company

According to the Haynes Stellite Company, Kokomo, Indiana, materials of construction play an important part in the service given by ball valves for preventing the reverse flow of oil in pumping wells. A recent development is the use of wear- and corrosion-resistant non-ferrous alloys for these parts. Valve balls are ground from castings of Hastelloy D, an acid-resistant nickel-silicon-copper-aluminum alloy, while the seat rings are hard-faced with Haynes Stellite, the wear-resistant alloy of cobalt, chromium and tungsten.



Hastelloy D balls and Haynes Stellited seats for working barrel valves handling crude oil.

These alloy valve balls and hard-faced seats have proved especially suitable for handling high sulphur crudes. A considerable saving is effected through the use of valves having these alloy parts because they remain in service for long periods and thus materially reduce the expense and loss of time occasioned by replacements.

TRUCK TIRES

The B. F. Goodrich Company

The B. F. Goodrich Company announces a new line of heavy duty truck tires and tubes designed especially for light trucks of ½ and ¾-ton carrying capacity.

The new line is manufactured in a complete range of sizes to fit present equipment rims in 16-inch wheel diameters. These sizes are 6.00-16, 6.50-16, 7.00-16, and 7.50-16. All are made with six plies, while the last is also made with eight plies.

The new tire follows the development by Goodrich in recent years of the "Commercial 15" and the "Store Door Silvertown" tires, also specially designed to fit specific services in the light truck field.

For use with the 7.00 and 7.50 sizes the company has developed a new all-black tube equipped with hand-bendable rubber valves. This special tube was designed especially for speed conditions encountered in the light truck field. For the 6.00 and 7.50 sizes the manufacturer will use the Gold and Black tube, with hand-bendable rubber valves, which has had wide acceptance in the passenger car field.

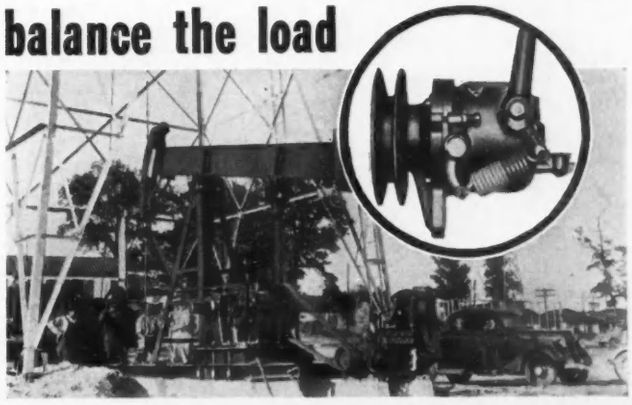
The new line of tires, the manufacturer says, allow light trucks to be operated without speed restrictions other than those imposed by law and the rules of safe driving.

Other advantages of the new products are listed by the manufacturer as:

Tread 22 percent wider; tire 11 percent heavier—more rubber; more traction; fits present equipment rims; no wheel changes; great resistance to bruise breaks.

PIERCE GOVERNORS

balance the load



Southwest V-8 (Ford Conversion) Industrial Engine equipped with a Pierce Governor. Operating a deep well in the big East Texas oil fields.

Oil Well pumping takes the measure of any governor. A pump operating at 20 strokes a minute means the governor must function instantly, accurately and efficiently at a minimum of 40 times a minute. Only a governor, such as Pierce, engineered to meet oil field conditions, can be depended upon for this type of service. Write for complete catalog. Pierce Governor Co., 119 Ohio Ave., Anderson, Ind.

PIERCE GOVERNORS

STANDARD SINCE 1913

This Week with the Industry's EQUIPMENT SUPPLIERS

Bert. L. Stone Making European Trip

Bert L. Stone, vice president and general manager of Hydril Company, left Los Angeles July 21 en route to New York where he will sail for England on August 4. He stopped off on his way to New York to inspect the branch factories of Hydril Company located in Youngstown, Ohio, and Rochester, Pennsylvania.

Stone will be in London and The Hague until the first part of September, when he will return to the United States. Before returning to Los Angeles he will again visit the branch factory in Rochester.

BERT L. STONE
Hydril Company vice president is enroute Europe

Frick-Reid Holds Open House at Houston

Celebrating completion of its new air-conditioned offices and greatly enlarged warehouse, the Houston branch of Frick-Reid Supply Corporation, 2210 Quitman Street, entertained oil men of the Houston area with an open house and buffet supper Thursday afternoon and evening, August 29.

The new offices are spacious, exceedingly comfortable, air conditioned and beautifully appointed. The exterior of the office building is finished in marble, black glass and chromium trim, built along the new modern style of architecture.

The warehouse capacity has been doubled to handle the increasing business of the Houston area.

Company officers and representatives present included J. L. Shakely, vice president; Robert McCoy, Jr., sales manager; S. R. Clinkscals, manager pipe sales; O. C. Statles, manager machinery department; R. J. Macon, manager credit department, all of Tulsa; A. I. Brainard, president, Beaumont Iron Works, Beaumont; H. H. Wilson, assistant sales maanger, Dallas; H. C. White, district sales maanger, Shreveport; John W. Kaye, assistant district sales manager, San Antonio; G. S. Emerson, store manager, and J. K. Waddick, salesman, from Beaumont.

The following members of the local organization acted as hosts: V. V. McGrew, district sales manager; C. B. Moore, city sales manager; D. T. Ottinger, Erwin Goldsmidt and E. D. Herron, city salesmen; D. T. Roberts and C. E. Wright, field salesmen, and R. J. Andrew, city store manager.

Charles Geddes Joins Shaffer Tool Works

Charles Geddes has been appointed West Texas representative for Shaffer Tool Works, and will be located at 1903 West Texas Street, Midland, Texas. Geddes for a number of years has been associated with various oil operating concerns.

Opened appropriately this week, Frick-Reid Supply Corporation's Houston branch is housed in this modern building on Quitman Street.

A. R. Bowlzer Transferred to Akron by Goodrich

A. R. Bowlzer, formerly sales promotion manager of the Denver district, has been transferred to the Akron, Ohio, headquarters of the B. F. Goodrich Company as an assistant manager of sales promotion, it is announced by P. C. Handerson, director of advertising and publicity.

Bowlzer, a graduate of the University of Southern California, joined the Goodrich organization in March, 1932, as a tire adjuster in the company's Los Angeles factory. He was appointed sales promotion manager of the Denver district in May, 1933, and served in that capacity until his transfer to Akron.

McLeod Transferred to Memphis by Westinghouse

Westinghouse Electric & Manufacturing Company, Pittsburgh, has transferred L. W. McLeod from its Wichita offices to Memphis, Tennessee, where he has been promoted to branch manager.

A. C. Stearns Sales Manager Emsco Asbestos Company

Emsco Asbestos Company, Downey, California, announces that A. C. Stearns, former eastern district sales manager, has been appointed sales manager of the company and will make his future headquarters in Downey.

Steel Oil Derrick Appoints Leslie

George L. Leslie, well known in oil circles in California, recently was named sales manager for Steel Oil Derrick, Ltd., with headquarters in Los Angeles. Leslie was conected with the Oil Bulletin for a number of years, and later was connected with two oil tool manufacturers in the sales department.

Tulsa Exposition Grounds Being Enlarged for 1938

Skelly Drive is to be the name of the new street under construction at the International Petroleum Exposition grounds at Tulsa in preparation for the 1938 oil show, May 14 to 23.

"With the addition of the new street at the east end of the grounds and the construction of the new modernistic cafeteria building, it will be necessary to move the east fence back 150 feet. This will greatly improve exhibit facilities and route larger crowds to the east end of the grounds," W. B. Way, general manager, explained.

"One large exhibitor is planning to construct his own building on the new street, which is to be similar to the Drake Drive on the west end of the grounds."

New entrance and exits to the new street will be made from the California, Scientific and Technical, and Refiners and Marketers buildings. Visitors will find it easier to reach the new street with its additional exhibit space because of the removal of the arcade booths between the California and Scientific buildings. This will afford another direct approach to the east end of the grounds. Main entrance gates will be placed at each end of the new street.

Squeaks from the Bull Wheel

Cheap Time

"Young man, I notice that you are almost invariably from 10 to 20 minutes late in getting to the office."

"I know, sir, but you seem to set such a small value on my time that I didn't think it mattered much."

Perfectly Plain

A cockney phoned to inquire the rate to Ealing, a suburb of London. The man at the other end of the line couldn't catch the name of the station, so in desperation he asked the cockney to spell it. Quickly came the reply: "E—for 'Erbert, A—wot the 'orses heat, L—w'ere yer goes w'en yer dies, I—wot yer sees wiv, N—wot lays a hegg, G—Gawd bless me. Get me?"

Compliment to the Hat

"Sorry to have kept you waiting so long, but it has taken me longer than usual to get ready. I look like a fright in this hat, too."

"It isn't the—er—fault of the lovely hat, I am sure, Miss Hankinson," he blundered.

A Dry Place

Visitor—Poor man, did your love of drink bring you here?

Convict—Lord, no, Miss, you can't get nothin' in here.

A Difference

"What is it, officer? Was I driving too fast?"

"Oh, not at all, not at all; you were flying too low."

The Doctor Knew

Stern was the glance the coroner cast at the quack doctor who had just taken the stand to testify regarding the sudden demise of one of his patients. "When you were called in, what medicine did you give the deceased?"

"I gave him a teaspoonful of syrup of ipecac," replied the pseudo medic.

"Oh, you did, did you?" sneered the coroner. "Don't you know that in view of the condition this man was in you might just as well have given him a hypodermic injection of Aurora Borealis?"

The doctor nodded, gravely. "That is just what I had planned to give him if the ipecac didn't relieve him."

Diagnosis

The Italian's wife had been to the doctor. Her husband came home to find her much distressed and crying, and told him that the doctor said that she had tuberculosis and was going to die. So he called the doctor on the telephone:

"What you mean, you tell my wife she got tuberculosis and is going to die? You scare her to death."

"I did not tell her that. What I said was she has too big a tokus and will have to diet."

Careful Inspection

"I wonder if your wife would like to sit in the driver's seat and see what she thinks of it, sir."

"Yes, I suppose so. Open the back door and let her climb in."

Too Late

"Well, Dad, I just ran up to say hello."

"Too late, son. Your mother ran up to say goodby and got all the change."

Anything

Doctor (feeling Sandy's pulse in bed): "What do you drink?"

Sandy (with brightening face): "Oh, I'm nae particular, doctor! Anything you've got with ye."

Good Wishes

"Sorry to hear you were in that automobile accident."

"Oh, don't bother—I hope to survive many more like that."

"Goodness, I hope not!"

Publicity

Fan: What an adorable necklace. I've never seen one just like it.

Movie Actress: Isn't it lovely? It's made entirely of my wedding rings.

My Word

"What's worse than raining cats and dogs?"

"I don't know, unless it's hailing a street car."

No Victory

"I see you're back for fighting with your wife. Liquor again?"

"No, sah, Jedge, she licked me this time."

He Knew

The flying American six-cylinder car was hogging along a Warwickshire road when it suddenly pulled up with a screech of brakes opposite an old countryman.

"Say," said the driver, nasally, "kin you tell me if I am right for W. Shakespeare's house?"

"Yessir," replied the yokel, "but there hain't no need to hurry—he's dead!"

Out of Turn

"Ma, the shoe repairer's called for his money."

"Tell him he's out of his turn. I haven't paid for the shoes yet."

Could Be Wrong

Store Manager: "What do you mean by arguing with that customer? Don't you know our rule? The customer is always right."

Floorwalker: "I know it. But he insisted that he was wrong."

Troubles With Wives

An early visitor says that a man out West got himself into trouble by marrying two wives.

A Western editor replied by assuring his contemporary that a good many men in that section have done the same thing by marrying one.

A Northern editor reports that quite a number of his acquaintances found trouble by merely promising to marry, without going any further.

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GOTT Water Coolers are the convenient way to keep drinking water handy to the worker, protect it from impurities. Their exclusive construction keeps water cool for long periods. Snug fitting large removable top, handy non-leaking push button faucet. GOTT Water Cans for handy field use. Your Supply Store has them, get one today! . . . .
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